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THE ORIGIN OF GLASS BLOWING
THE PAINTER OF THE TYSZKIEWICZ CRATER
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HERMES, SNAKE-GOD, CADUCEUS
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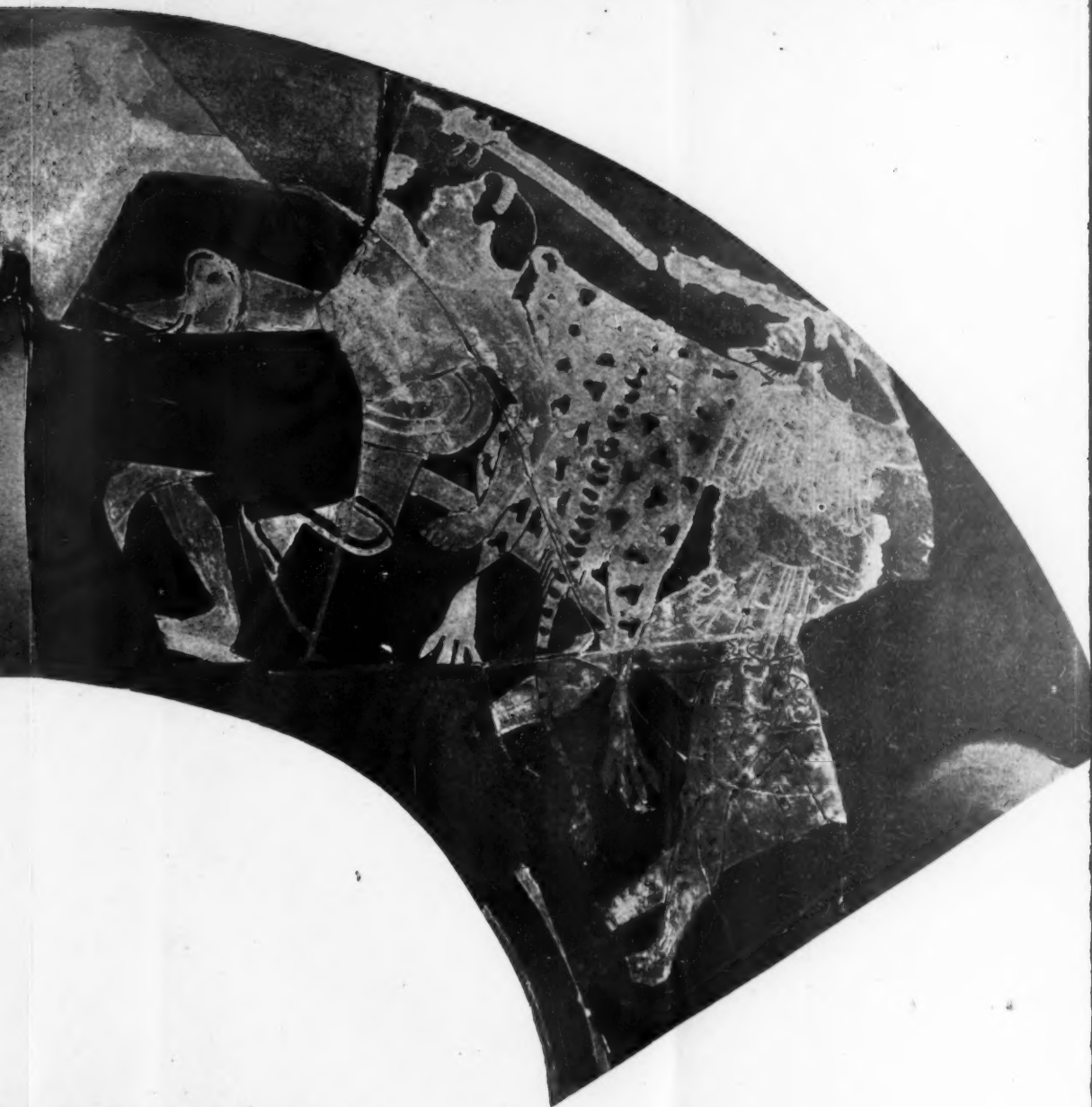




CYLIX IN THE METROPOLITAN MUSEUM; INTERIOR



CYLIX IN THE METROPOLITAN
This "photoplane" was made by Mr. D'H



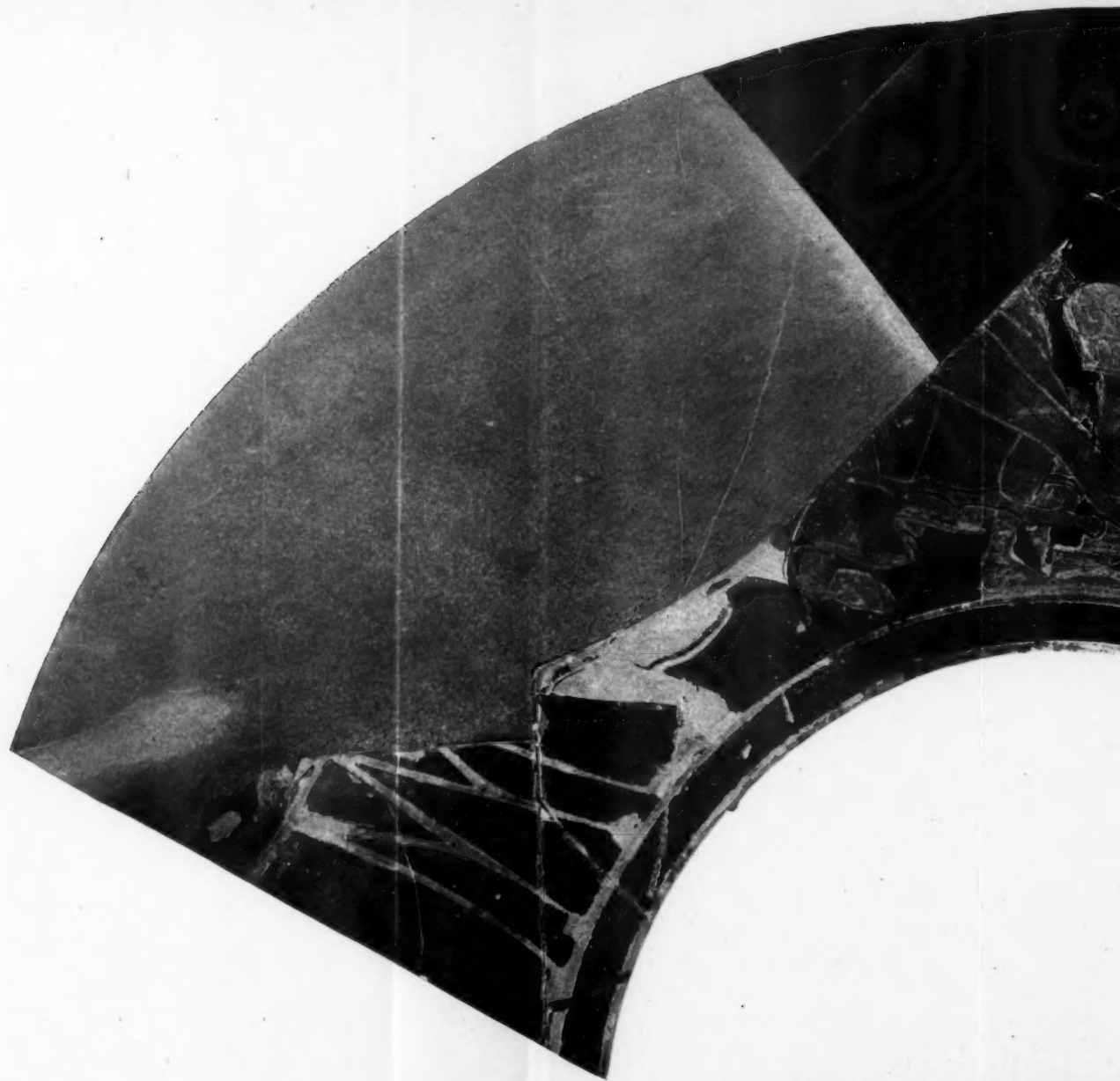
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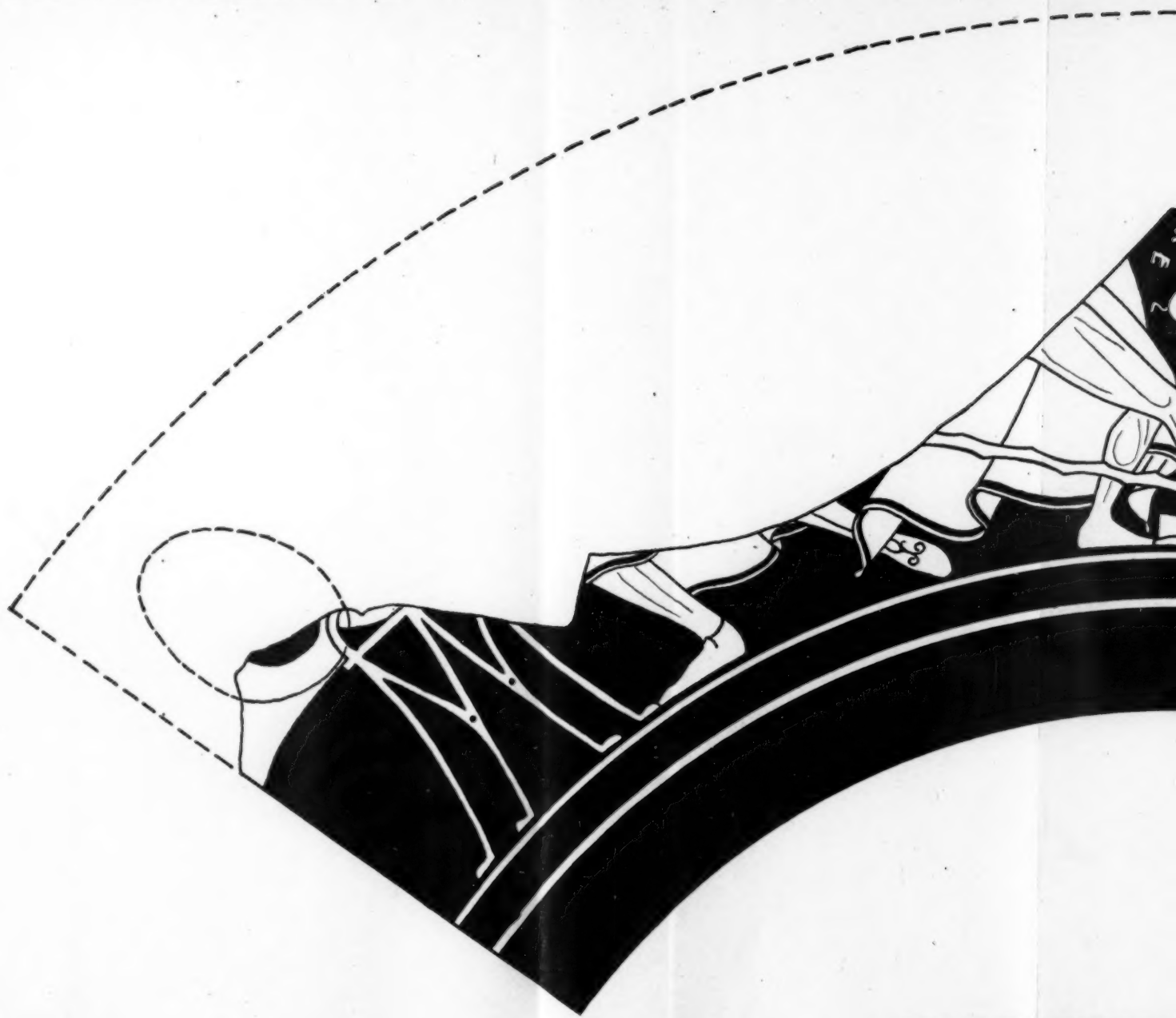
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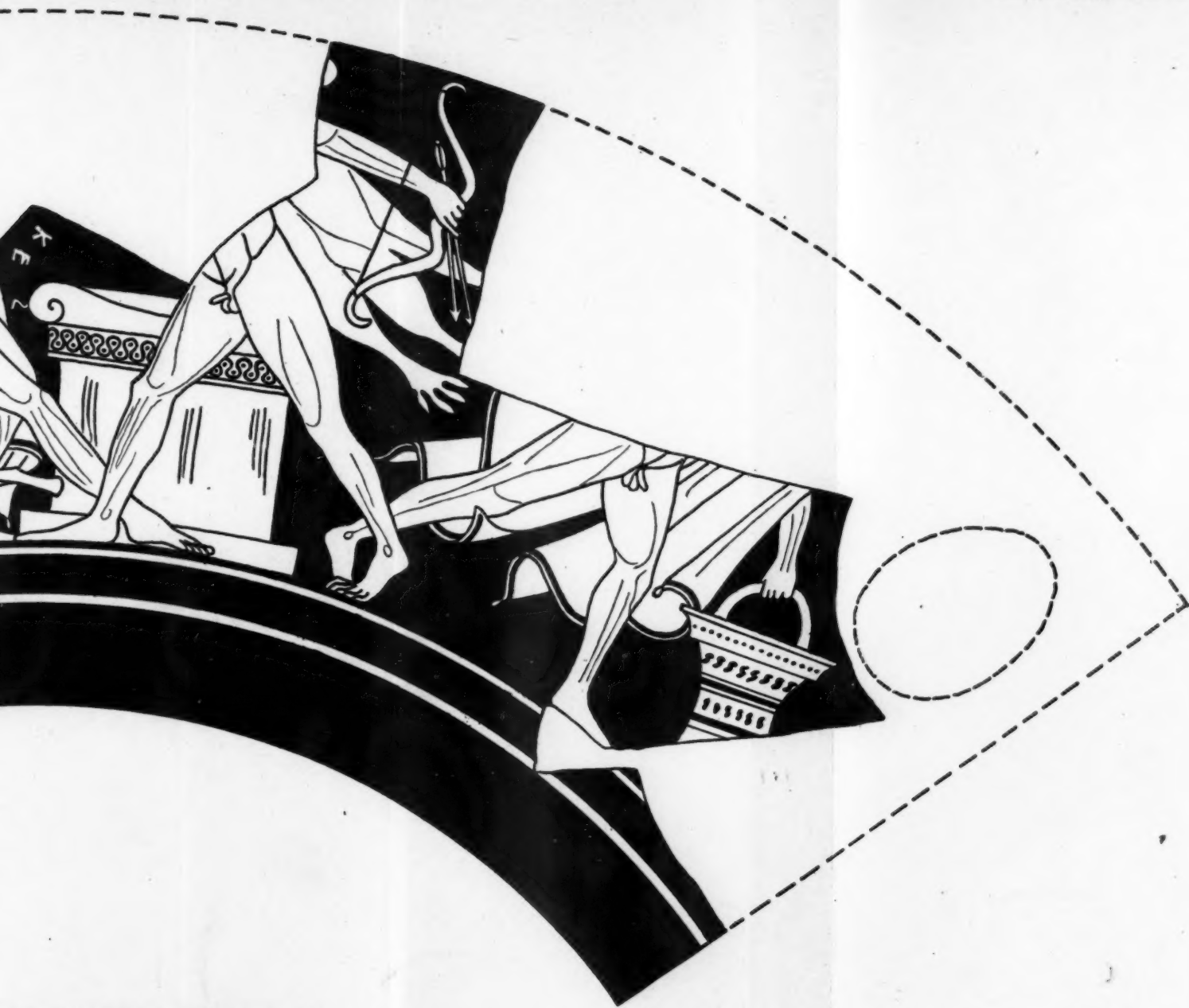
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A NEW EUPHRONIOS CYLIX IN THE METROPOLITAN
MUSEUM OF ART

[PLATES II-VI]

VASES bearing the name of Euphronios can be divided into two distinct classes, according as they are signed Εὐφρόνιος ἔγραψεν or Εὐφρόνιος ἐποίησεν. The former are admittedly the work of Εὐφρόνιος as painter, and form a well-defined, homogeneous group; the latter, later in date, attest him the owner of the factory; but they have no painter's name, except in one case where the name is fragmentary.¹ On stylistic grounds these vases can be assigned to several artists,² but the majority were clearly painted by one man. They used to be assigned to Euphronios and classified as examples of his later, more developed style.³ But Furtwängler has rightly pointed out that there is here not a question of advance and development, but of a totally different personality,⁴ and that, for instance, the Geryon vase and the Eurystheus cylix could never have been painted by one and the same person. For want of a better name the painter of the majority of the Εὐφρόνιος ἐποίησεν vases is now commonly referred to as the "Panaitios master," since he occasionally used Panaitios as a καλὸς name.

A beautiful example of the work of this gifted painter has recently come into the possession of the Metropolitan Museum of Art. It is a cylix decorated both inside and outside with scenes from the life of Heracles.⁵ The inscription ΕΥΦΡΟΝΙΟΣ ΕΓΟΙ... is painted in the interior picture. Unfortunately the cylix is

¹ Hartwig, *Die griechischen Meisterschalen*, pl. 53.

² E. Radford, *J.H.S.* XXXV, 1915, p. 139.

³ E.g. Hartwig, *Die griechischen Meisterschalen*, pp. 444 ff.

⁴ Furtwängler and Reichhold, *Griechische Vasenmalerei*, I, pp. 104, 110.

⁵ (Accession No. 12.231.2.) Height 4½ inches (10.5 cm.); diameter 12½ inches (32.7 cm.). A short description of it, with a view of the interior scene, was given in the *Museum Bulletin*, July, 1913, p. 153 f; cf. also E. Radford, *J.H.S.* 1915, p. 123. Its provenance is not known.

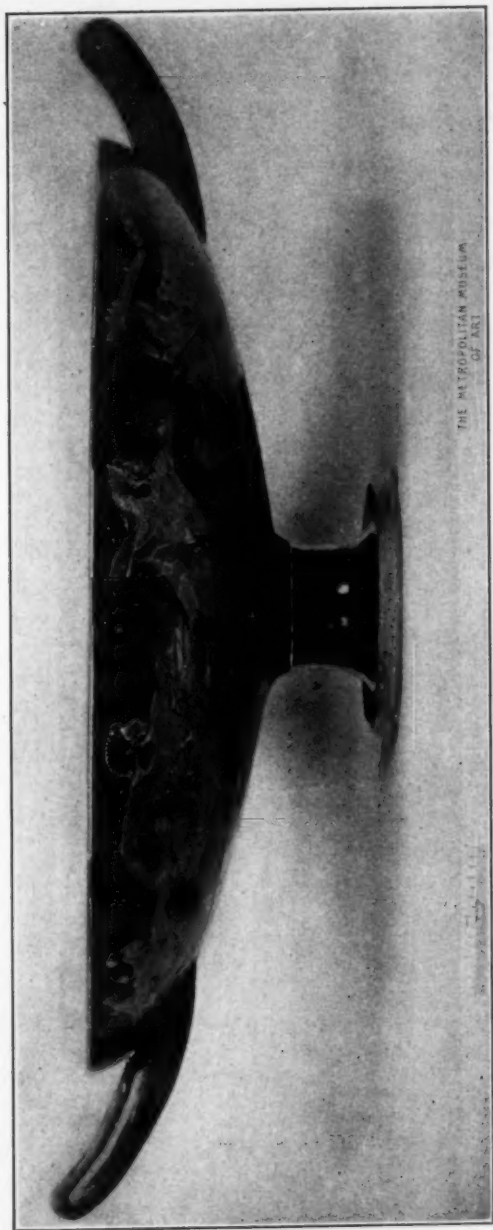


FIGURE 1.—CYLIX SIGNED BY EUPHRONIOS, METROPOLITAN MUSEUM, NEW YORK.

not in good condition. Considerable pieces are missing¹; and the paint used for the detail lines, especially in the figures of both exterior pictures, has largely disappeared. These lines are nevertheless still mostly visible and have been carefully indicated in the drawings.

The scene in the interior represents Heracles (inscribed HERAKLES) walking leisurely, with a young companion by his side (Plate II). Heracles wears a short chiton with overfold. He has pulled the chiton up in front through the girdle to form a *kolpos*. The lion's skin serves him as a mantle, covering his head and back. In one hand he holds the club, in the other a bow and arrow. On his back is a quiver fastened by a cord around his neck. Of the little companion not much is preserved; only enough to show that he wore a traveller's hat with wide brim (*petasos*) and sandals with high lacings; and that he is carrying a stick over his shoulder, from which a wine-skin² is apparently suspended. It is difficult to identify him with any particular person. Iolaus, the great friend and faithful helper of Heracles, is always represented on the vases as a full-grown man. He was in reality Heracles' nephew, being the son of Heracles' brother Iphicles, so that it is not impossible that the boy of the picture is meant for Iolaus. But inasmuch as he is elsewhere invariably represented as a man and not a boy, we cannot identify him here with any degree of probability. Several other possibilities suggest themselves. The boy may be merely a little slave, accompanying his master and carrying some of his possessions. Or he may be one of Heracles' sons, preferably Hyllus, who afterwards became the husband of Iole, concerning whom arose the contest between Heracles and the sons of Eurytus figured on one of the exterior sides of this cylix; the presence of Hyllus here would be appropriate as foreshadowing the future outcome of that event. Or, again, the boy may represent Hylas, the favorite of Heracles,³ though this would then be, I believe, the earliest representation of him in Greek art,

¹ These, including one handle, have been restored in plaster and painted black.

² The little protuberance on the side suggests the wine-skin; it is different from the tassels on the three-cornered bundles. For other instances where the leg of the animal is indicated merely by such a protuberance cf. e.g. Gerhard, *Auserlesene Vasenbilder*, pl. CCLXXII, 3, and Perrot et Chipiez, *Histoire de l'Art*, X, p. 190, fig. 121.

³ This suggestion I owe to Professor Fairclough of Stanford University.

since all those known are of a much later period.¹ As we have so little evidence, it is difficult to come to a definite conclusion.

The picture is beautifully painted with a great wealth of detail. Diluted glaze is used for the markings of the muscles, for the wavy folds of the *kolpos* and for the shaded lines on the bow, while a brown wash is added to the lion's skin. The cord of the hat, the lacings, and the inscriptions are painted in purple. This variety of coloring gives a decidedly picturesque effect to the whole. Both the pose and the expression of Heracles are very lifelike and alert. The face with the strongly marked lips and the upward tilt to the nose is strongly individual. Noteworthy is the rendering of the eyelashes, which is unusual until a later period.²

The composition of the scene is unusual for the interior of cylices. It can be paralleled by that on a cylix in Boston, published by Hartwig, *Die griechischen Meisterschalen*, pl. XXVI.³

Below the two figures is an exergue with egg-pattern. Encircling the whole scene is a double intersecting maeander interspersed with rosette patterns.⁴

The better preserved scene on the outside of the cylix represents the contest of Heracles and the sons of Eurytus (Plates III-IV). The fight is evidently conceived as taking place at a banquet, as is indicated by the two couches, on which the sons of Eurytus were probably reclining when Heracles began his attack. Heracles is in the centre of the picture. He is about to give young Clytius (inscribed Κλ ...) a crushing blow with his right fist. One of Clytius's brothers is coming to his rescue from behind, swinging a club and holding out a panther's skin for a shield. On the other side of Heracles, Iphitus (inscribed Ιφιτ. .) is seen striding forward, his bow in his right hand,

¹ Hylas as a legendary figure appears to have been known as early as the fifth century B.C.; but he evidently did not become popular before the Hellenistic period. The story that he accompanied Heracles on the expedition of the Argonauts and was kidnapped by the water nymphs in Mysia is of Alexandrian origin. Cf. Seeliger in Roscher's *Lexikon*, s.v. Hylas, p. 2793.

² For other instances during the severe red-figured period cf. Walters, *History of Ancient Pottery*, I, p. 408; and Furtwängler und Reichhold, *Griechische Vasenmalerei*, I, pl. 32, II, pl. 92.

³ This reference I owe to Mr. J. D. Beazley.

⁴ This complicated maeander pattern occurs on no other known vases of the Panaitios master. It is used occasionally on cylices by Duris, and also occurs on larger vases (cf. Hartwig, *Die griechischen Meisterschalen*, p. 220, note 2, and Walters, *History of Ancient Pottery*, II, p. 213).

his left extended towards Heracles. Behind him a fourth brother is advancing rapidly to join the conflict. In the field are two swords, suspended from the wall in their sheaths.

Heracles is represented nude, except for the lion's skin which covers his head and hangs down his back. He has no weapons. Perhaps the club of the man with the panther's skin belongs to Heracles. Of the four sons of Eurytus the one furthest to the right with the panther's skin wears a short chiton with *kolpos* and overfold, similar to that of Heracles in the interior picture. Clytius has a himation round his waist. The other two are nude, having dropped their himatia for greater freedom of movement; one is left on the couch, the other is lying on the ground. All the figures are bearded except Clytius who has only whiskers. The whole scene is full of impetuous movement. Each figure is studied in reference to its relation to the whole scene, and the result is a successful dramatic whole. The faces are again strongly individualized and have the full lips and big noses which we noticed in the interior picture. Diluted glaze is used for the muscles, the hair on the chests of the two brothers on the left and of Heracles, the whiskers of Clytius, and the lines of the *kolpos* of the brother on the right; it also seems to have been used as a wash on the lion's skin. Purple was employed for the fillets, the cords by which the quivers are suspended, and the inscriptions.

The Eurytus legend is given differently by various authors.¹ According to Homer, *Odyssey*, 21, 24 ff., Iphitus, the son of Eurytus, came to Heracles while searching for some horses which he had lost. Heracles entertained him as his guest, and then slew him in order to get possession of the horses. A later version makes Eurytus institute a contest in archery at which the prize for the victor was to be his daughter Iole. Heracles won, but was refused his prize, whereupon he killed Eurytus's sons (Scholiast, Euripides, *Hippolytus*, 545). The scene on our vase apparently follows this later account. Iphitus is here not the central figure, but only one of several enemies. Though only his name and that of Clytius are given, the other two figures are probably also sons of Eurytus.²

¹ Cf. the references given by Weniger in Roscher's *Lexikon*, s.v. Iphitos, §311 ff.

² Diodorus, 4, 37, gives the names of four brothers: Iphitus, Pytius (probably meant for Clytius), Toxeus, and Molion. On the Madrid amphora (see below) there are figured three brothers whose names are inscribed Iphitus, Antipholus (ΑΝΤΦΟΛΙΟ), and ΤΙΟΝΟ.

Representations of the Eurytus story are not very common. The following vases with scenes relating to various phases of it are known:¹

1. A Corinthian crater with Heracles, Eurytus, Iphitus, and Iole (names inscribed) represented as reclining on couches.² The scene is entirely peaceful in character and must refer to a banquet held before any trouble arose, before the contest in archery.

2. A black-figured scyphus in the Louvre with two scenes, which have been interpreted as representing respectively (a) the arrival of Heracles, Iolaus and Hyllus at the banquet of Eurytus and his sons, (b) Heracles and his two companions forcing their way into the palace of Eurytus.³

3. A white-ground cylix in the Louvre with a representation of Heracles killing Iphitus, who is reclining on a couch.⁴ The artist is evidently following Homer's version, making Heracles kill Iphitus after entertaining him as a guest.

4. A black-figured amphora in Madrid, on one side of which is depicted Heracles and Eurytus with Iole and three of his sons (names inscribed).⁵ Heracles is in the act of shooting an arrow; Eurytus and Antiphilus are advancing towards him with outstretched arms, while Iphitus and another son are lying on the ground fatally wounded. This scene has been interpreted as the contest in archery,⁶ as Heracles killing Eurytus and his sons,⁷ and as both these actions combined in one.⁸ Bienkowski's interpretation seems to me the most likely.

5. Fragment of a red-figured cylix in the National Museum at Palermo, representing the contest of archery.⁹

¹ The representation on the Melian amphora, No. 477 in the National Museum at Athens, is interpreted by Collignon and Couve in their catalogue as the carrying off of Iole by Heracles. I am inclined, however, to agree with Pottier, *R. Ét. Gr.* 1895, p. 389, in his identification of the scene as Heracles and Deianeira. I want to acknowledge my obligation to Mr. Luce for calling my attention to this vase.

² Cf. *Monumenti dell' Istituto*, VI, p. 33; also Furtwängler, in Roscher's *Lexikon*, s.v. Herakles, p. 2206.

³ Cf. Pottier, *Monuments Grecs*, XXI-XXII, 1893-1894, p. 43, pl. 14.

⁴ Cf. E. Pottier, *Monuments Piot*, II, p. 53, fig. 3; Furtwängler, Roscher's *Lexikon*, s.v. Herakles, p. 2233; Perrot et Chipiez, *Histoire de l'Art*, X, p. 711, fig. 389.

⁵ Alvarez-Ossorio, *Vasos Griegos en el Museo Arqueologico Nacional*, No. 10.916, p. 39, pl. XIX; Bienkowski, *Jh. Oest. Arch. I.* III, p. 64, fig. 6; Minervini, *Illustrazioni di un vaso volcente*; Brunn, *Vorlegeblätter*, No. 2.

⁶ Furtwängler, Roscher's *Lexikon*, s.v. Herakles, p. 2206.

⁷ Cf. Bienkowski, *loc. cit.*

⁸ Cf. Hartwig, *J.H.S.* XII, 1891, p. 338.

⁹ Cf. Hartwig, *J.H.S.* pp. 334 ff., pl. XIX.

6. Fragments of a red-figured cylix found on the Acropolis, probably representing the same contest.¹

The other exterior scene is very fragmentary, most of the upper portion being missing. Enough remains, however, to identify the subject as Heracles killing Busiris and his attendants (Plates V-VI). In the centre is the altar at which Heracles was to have been sacrificed. The hero himself is beside it, striding forward in violent motion, evidently attacking his foe. He holds out his bow and arrows in the left hand, while in the right he must have wielded his club or sword. The lion's skin hangs down his back. His opponent is falling backward and has let go of his staff. Between Heracles and his opponent are the remains of an inscription KEΣ, clearly the end of a name. It refers to Heracles the ν was accidentally omitted; if to the Ethiopian, it is an unknown name.²

On each side of this central group is a fleeing attendant; one carries a basket which probably contains sacrificial objects. On the extreme left of the scene is a stand.

The essential elements which occur on almost all Busiris scenes—the altar, the central group of contestants, the fleeing figures to the right and left—are all here. It is unfortunate that nothing remains of the faces of the Egyptians. We cannot therefore tell whether they were of the Ethiopian type, as they are on most similar scenes, or whether they were depicted like Greeks. What is left of the garments shows that they are not the usual tunics, but himatia; so that it is possible that the whole scene was treated in Greek fashion without local color, just like the representation on the Louvre vase.³

The contest of Heracles and Busiris is a not uncommon subject on Greek vases.⁴ The following examples are known:⁵

¹ Cf. Winter, *Jb. Arch. I*, II, 1887, p. 229 f.; Furtwängler, Roscher's *Lexikon*, s.v. Herakles, p. 2234; Hartwig, *J.H.S.* 1891, XII, p. 335.

² We only know the names of the king Busiris, his son Amphidamas (or Iphidamas), and the sacrificial herald Chalbes (cf. Steuding in Roscher's *Lexikon*, s.v. Busiris, p. 835).

³ E. Pottier, *Vases antiques du Louvre*, II, G 50.

⁴ For representations of Heracles bound, ready for sacrifice, before he has begun his attack on the Ethiopians, cf. a red-figured cylix in Berlin, No. 2534, a red-figured amphora in the Bibliothèque Nationale, No. 393, and a South Italian lecythus with reliefs in the Naples Museum, Heydemann, *S. A.* 343 (illustrated in *Hallisches Winckelmannsprogramm*, VII, pl. II, 2).

⁵ A few examples have here been added to the list given by Hartwig, *Griechische Meisterschalen*, p. 53, Note 1. I am much indebted to Mr. Stephen Luce for calling my attention to the vases listed under Nos. 11 and 12 of my list.

Caeretan:

1. A Caeretan hydria in Vienna, No. 217, illustrated in *Monumenti dell' Istituto*, VIII, 16, 17.

Red-figured Attic:

2. Cylix in the British Museum, cf. Walters, *Catalogue*, E 38.

3. Cylix formerly in the Van Branteghem Collection; cf. Hartwig, *Meisterschalen*, pl. IV.

4. Amphora in the National Museum at Athens; cf. Collignon et Couve, *Catalogue*, No. 1175.

5. Amphora in the Museo Civico at Bologna, Pellegrini, *Catalogue*, No. 174; illustrated Zannoni, *Scavi della Certosa*, pl. XXIII.

6. Amphora in the Ashmolean Museum in Oxford; illustrated *Annali dell' Istituto*, 1865, pls. P. Q.

7. Hydria in Munich, Jahn, *Catalogue*, No. 342; illustrated in Furtwängler und Reichhold, *Griechische Vasenmalerei*, pl. 73.

8. Hydria in the Louvre, cf. Pottier, *Vases antiques*, II G. 50.

9. Crater in the Metropolitan Museum, New York; cf. *Museum Bulletin*, June, 1915, p. 123, fig. 3.

10. Crater, once in Ruvo, described by Heydemann, *Bullettino*, 1868, p. 158, 21.

11. Fragments of a stamnos in the Hauser Collection, published in *Jb. Arch. I.* XI, p. 191, No. 34.

South Italian:

12. Fragment of a red-figured vase in the National Museum in Naples, Heydemann, *Catalogue*, No. 2558, illustrated in *Museo Borbonico*, XII, pl. XXXVIII.

In both the interior and exterior scenes the style of the Panaitios master is unmistakable. They have the power and swing which characterize the work of this artist and which give it its peculiar value. This is shown both in the bold and well constructed compositions and in the single figures, which are not only full of life, but show a wonderful feeling for individualization. The drawing itself is masterly; it is flowing and finished and full of spirit.

The other vases painted by the Panaitios master and signed by Euphronios as potter are:

The Eurystheus vase in the British Museum (Furtwängler und Reichhold, *Griechische Vasenmalerei*, I, pl. 23).

The Theseus cylix in the Louvre (cf. Furtwängler und Reichhold, *Griechische Vasenmalerei*, I, pl. 5).

The Dolon cup in the Cabinet des Médailles (cf. *Archäologische Zeitung*, 1882, pl. 3).

The Boston cup with the komos scenes (cf. Hartwig, *Die griechischen Meisterschalen*, pls. 47-48, 1).

An unpublished cylix with athletes in a private collection.

In addition to these, Mr. Beazley attributes sixteen unsigned vases to this master, many of which bear the *καλός* name Panaitios and all of which have the same stylistic characteristics.¹

In point of style our cup resembles most closely the Eurystheus cylix in the British Museum. Besides the fundamental qualities of movement, individualization, and dramatic sense, which also connect our cylix with the other works of the Panaitios master, these two vases have many details of drawing and composition in common. In both we find the picturesque combination of black relief lines with brown inner markings and brown washes, as well as a sparing use of purple; the same type of profile with strongly marked lips and slightly upward tilt to the nose²; the same styles of beard, with either ragged outline or rows of oblique lines; and the same treatment of the folds of the garments. The drawing of the feet and ears is also similar, as well as that of the quivers. A favorite device of the Panaitios master was to give his beardless youths whiskers³; these are also indicated on the Clytius of our cylix. For the swords which are suspended in the field of the Eurytus scene compare similar ones on the exterior of the Theseus cylix in the Louvre.⁴

We may date the Eurystheus cylix and our cylix as approximately contemporary, that is, towards the end of the severe red-figured period. The eye is not yet painted in correct profile; but the pupil is placed toward the inner corner, not in the centre. Though unfortunately not so well preserved as the Eurystheus cylix, our vase is equal to it in fineness of workmanship and in vigor of conception. It is, in short, a worthy example of the most gifted of Greek vase-painters.

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METROPOLITAN MUSEUM OF ART.

¹ With his customary generosity Mr. Beazley has sent me a copy of this list, which has been of great help to me in my studies of our cylix. It will be published in his forthcoming book *Attic Red-figured Vases in American Museums*.

² Compare especially the profiles of the Heracles in our interior scene and of the Eurystheus in the British Museum cylix.

³ Cf. the youths on the cylices inscribed *Παναίτιος καλός* published in *Archäologische Zeitung*, 1884, pl. 16, 2, and in Hartwig, *Die griechischen Meisterschalen*, pls. 44, 2 and 46.

⁴ Cf. Furtwängler und Reichhold, I, pl. 5.

THE ORIGIN OF GLASS BLOWING.

A CRITICAL study of antique beads, begun some years ago, soon convinced me that the chronology and technique of glass beads were intimately connected with those of glass vessels. This led to a comparative study of these two groups of products of the glass-maker's art and a consideration of the various theories about the place, date, and manner of the origin of glass-blowing. Some of the results of these investigations will be set forth in this paper in a summary way, a more detailed discussion being in preparation.

The well known paintings found in Egyptian tombs of the VI and XII Dynasties, which have been interpreted as representing glass-blowing, led to the opinion, for a long time accepted as conclusive, that the art of blowing glass vessels from a glass bubble was known to the Egyptians in very remote times. Of late years, however, doubt has been thrown upon the correctness of this theory, principally by Flinders Petrie, for the following reasons:

(a) No glass of any kind has been found in Egyptian tombs of the VI or XII Dynasties. The very earliest dated specimen is a glass bead with the name of Queen Hatshepset, and this is properly assigned to her reign in the XVIII Dynasty. Glass beads are absent in the XII Dynasty, but exceedingly numerous in the XVIII Dynasty, the earliest types being imitations of similar types made of paste.

(b) No vessels of blown glass have been found in Egyptian tombs or excavations earlier than the Ptolemaic period, although innumerable specimens and fragments of glass vessels have been found which belong to the long period of over one thousand years between Thothmes III and the Ptolemies.

(c) All these glass flasks, bottles, and vases we now know to have been either moulded or formed by hand over a core of soft paste or clay, the core afterwards being scraped out. This discovery we owe to Flinders Petrie, and it can be confirmed by the

examination of the glass fragments excavated by the expedition of the Metropolitan Museum in the Palace of Amenhotep III at Thebes.

(d) The earliest vessels of blown glass date from the time of the Ptolemies. They consist of small flasks with short necks. The earliest I have seen was found with a Greek vase of the third century B.C.

These facts seem to me conclusive, and we are forced to doubt either the interpretation of the Egyptian wall paintings or their chronology, as it is absolutely inconceivable that no specimens of blown glass, or fragments of such vessels, should have come down to us had they actually been made. Nor is it likely that the Egyptians should have continued to make glass vessels in the old way after they had discovered the art of making them in a new, simpler and cheaper way. And this is proved, because after the appearance of the earliest flasks of blown glass, the old technique was abandoned, a technical revolution in fact being the result of the new discovery of blowing glass. So far as I know, no glass vessel made in the old way over a core has been found to be of a later date than the reign of Augustus.

An examination of the blown glass flasks of the Ptolemaic period revealed the interesting circumstance that they were nearly all made of two types of mosaic glass and not of monochrome glass ornamented afterwards. This fact seemed to me of great importance, because it is easily understood that mosaic glass cannot be blown from a fused glass bubble, as the melting of glass would have so diffused the pattern as to make it unrecognizable. The earliest blown flasks must have been produced in some other way. But before we enter upon that point it will be necessary to define the two kinds of mosaic glass used in the manufacture of the flasks.

Dragged Mosaic Glass.—This is one of the oldest types of mosaic glass, the type from which nearly all the flasks and vases of the XVIII Dynasty glass is made as well as most other ornamented glass vessels before the Ptolemaic time. Some of this glass possesses a fern and feather pattern and is almost too well known to need a lengthy description. I will state, however, that the technique used in producing the pattern was as follows:—The flask was made of monochrome glass, but before it had time to cool a spiral band of glass or glass thread was wound about the flask from neck to base. Before this band had time to solidify

it was combed or raked at intervals in one or two directions with a hook or point of metal. This raking carried the bands or threads in different directions, changing them into streamers or leaves, often carrying the topmost ones down to the bottom of the pattern in such a manner that one end of the streamer remained attached at the top while the loosened end diverged downwards, or vice versa. The pattern was finished by pressing it into the matrix of the bottle by rolling, and the finer specimens were afterwards, when cool, ground off and polished. The effect was a closed leaf and feather pattern similar in appearance to the finest mosaic glass made in any other way.

Of this kind of glass we can separate several varieties for which I propose distinct names.

1. *Arcades*.—The strokes separating or bending the bands are parallel to each other, beginning above and carried downwards. The result is a horizontal line of arches in upright position. If the strokes had been sufficiently heavy the arches are separated from each other, but if the strokes did not penetrate sufficiently deep, the arches connect horizontally.

2. *Festoons*, also called inverted arches.—The technique is the same as in the last variety, but the strokes pass from the lower part of the bottle towards the neck. The result is a number of more or less horizontally connected inverted arches or festoons, having the appearance of a row of hanging garlands, such as have been used since antiquity for the decoration of flat surfaces or in connection with cupids, the graces and dancers.

3. *Foliate*.—Fern and leaf pattern, plumate glass. The technique differs only in the direction of the strokes, which alternate from top to bottom and from bottom to top. The resulting ornamentation is a series of horizontally corresponding leaves which sometimes connect in a horizontal line, but sometimes stand diagonally in such a manner that one end of an individual leaf ends near the top of the glass vessel while the other end is near its base.

4. *Semifoliate*.—The band spiral was first divided by downward strokes from top to bottom. Afterwards intermediate strokes were made from bottom upwards, one in each arcade. But instead of cutting through all the arcades the stroke was halted halfway up, leaving the upper arcades intact, the lower ones having been broken up into leaves.

5. *Waves*.—The band spiral was first rolled into the matrix

and then made wavy by light up and down strokes. The crests and valleys remain rounded and the wave bands are more or less separated.

6. *Zigzags*.—The band spiral was wound close, so that the tiers touch, and then rolled into the matrix. It was afterwards zig-zagged by strong and deep strokes which caused both crests and valleys to be angular as in ordinary zig-zag patterns. The close winding of the band and the previous rolling in prevented irregularity in the design, and the impossibility of the formation of leaves with long, tapering points.

Beads Made of Dragged Mosaic Glass.—Beads made of this kind of glass are common in the XIX-XX Dynasties, and some were found in the Palace of Amenhotep III of the XVIII Dynasty. The variety continued to be made, the shape of the beads varying in different periods like the details of the technique and the colors of the glass. In the eighth and seventh centuries B.C. the favorite form is a cylinder. In the fourth and third centuries B.C. the spherical form is predominant. In the sixth century A.D. the cylinders come once more into fashion, but spherical beads are found in about the same quantity.

Earliest Blown Flasks of Dragged Mosaic Glass.—As has already been stated, all the old Egyptian flasks with dragged ornamentations were moulded or core-dipped, and this practice continued in use until the Ptolemaic period. About the third or second century B.C. we begin to find blown flasks with this ornamentation. All these earliest flasks are small, three or four inches high, and with a more or less globular or egg-shaped body. They possess the characteristic that the festoons are indistinct, irregular, and more or less confluent on the body, while they are better defined as we approach the neck. It seems thus evident that these vessels were not given their pattern after they had been shaped, but before the body had been blown. If these flasks had been ornamented in the same manner as the old Egyptian flasks or as all dragged flasks down to that date, it would be difficult to explain the sudden degeneration of the pattern at a time when the glass technique had suddenly emerged from a degenerate period into a perfect one, remarkable for the invention of columnar mosaic glass and for the perfection of several other types. But before we discuss this subject we will consider another type of mosaic glass.

Stratified Mosaic Glass.—This glass appears after the fifth

century B.C., the earliest specimen having been found with a Greek vase of the third century B.C. After that time the specimens made of this glass multiply rapidly and characterize the second half of the Ptolemaic period, continuing to be made several centuries afterwards.

This glass is made up of numerous parallel layers of glass of different colors which penetrate from surface to surface, like the units in a pack of playing cards. The layers vary in thickness, the opaque white being used to separate other colors from each other, the white sheets being generally much narrower than the colored ones, sometimes looking like hair lines, while the others are often a centimetre thick. The object of the white sheets was to reflect the colors of the other sheets from the depth of the glass matrix.

The technique consisted in annealing strips of different colored glass by fusion, a technique that could not have offered any great difficulties, and the type seems to have been quickly perfected. In the bottle found with the Greek vase, we find the strips to be violet, white, gold glass, cobalt blue, and emerald green. The gold glass was made by enclosing thin sheets of gold leaf between two sheets of transparent glass and then fusing and rolling them flat.

Beads Made of Stratified Mosaic Glass.—These do not appear until after the fifth century B.C. and, so far as I know, the same chronology applies to the beads as to the crude glass and to the flasks. We can distinguish three distinct types of these beads, which it is of importance to define.

1. The bead is made of a sheet of stratified mosaic glass which has been rolled up on itself, in such a manner that the strips and stripes have remained more or less parallel. A seam can often be seen where the margins of the sheet meet. In this variety the junction layers do not form any figures or fields, but if the end stripe is of the same color at each end, the meeting of the two will of course form a thicker stripe.

2. The stripes run in various directions so that the place of junction of the two margins of the glass, the sheet having been rolled up on itself, form a pattern. The simplest pattern consists of a large, egg-shaped, central field around which the other stripes follow concentrically. The technique in its simplest form consisted in bending a stratified and striped bar of such mosaic glass from the centre of its long axis, just as we fold up a necktie, the

centre forming an end-loop, and the two ends, now joined, forming the other extremity. Or if two bars are had with the same succession of colors, but with the stripes running diagonally, in one from left to right and in the other from right to left, the junction might be made to present a central diamond-shaped field, around which the other stripes are arranged in succession. The same effect could also be produced if the original glass was made up of sheets of glass meeting to form a zig-zag or field-and-band pattern.

3. The third type does not show any junction of two margins of a sheet and was made by simply perforating a bar of stratified glass with longitudinal or zig-zag stripes, or by packing zig-zag layered glass around a longitudinal axis.

Earliest Blown Flasks of Stratified Mosaic Glass.—The earliest blown flasks occur in the Ptolemaic period about the same time as the earliest blown flasks of the plumate glass. They show the peculiarity that the strips of the matrix are much thinner in the neck, running parallel from the bottom to the top of the neck, and sometimes continuously from the top of the neck to the bottom of the flask. In other flasks we see the stripes meet on the body of the flask, then turn in a loop and pass upwards through the whole length of the neck. In some flasks we have the stripes parallel in the neck, but at the junction of the neck and the body they abruptly spread out and grow in depth while widening laterally. Using these characteristics we can distinguish three types which it is of importance to define.

(a) The stripes are more or less parallel from neck to base, and the bowl or body of the flask is without field, loops and curves. Junction lines are present.

(b) The stripes are parallel in the neck and spread abruptly over the body, forming either a loop or arch on the body or continuing to the bottom of the flask. Junction lines are visible between the patterns.

(c) The body shows no junction lines between the parts of the pattern, which is more or less unsymmetrical.

Earliest Technique of Glass Blowing.—It is of course apparent to any one that mosaic glass does not lend itself readily to be blown from a bubble, as this would so distort the ornamentation as to make the pattern useless and perhaps even disagreeable to the eye. In most instances we should find that the original pattern of the mosaic glass had been completely lost, and in the

most favorable cases it would have been much disturbed. How then were these flasks produced? In my opinion by blowing out a bead or a tube intended for a bead, after the farther end of the tube had been closed. The technique differed in some types and shapes, but the principle was the same. First a tube of mosaic glass was made, either by piercing a hole through a solid bar of mosaic glass, or by folding a sheet of mosaic glass so as to form a tube, or by fusing several strips of mosaic glass longitudinally after first having doubled each unit on itself. The following are the principal technical types:

Dragged Glass.—A tube was made of a plain glass matrix and ornamented with a succession of rows or rather spirals of arches, festoons, or foliations, from one end of the tube to the other, according to the taste of the artisan. Next the distant end of the tube was closed, then the tube was heated to the point of proper liquefaction. The next step was to blow in the distant cool end of the tube with or without a mouth piece. The result would be that the pattern would remain more perfect and regular on the neck of the flask, but would spread out, and the individual stripes would widen out and become more irregular as the bowl or body widened. Where the tube had been closed a thick lump would probably remain, at least in a primitive attempt. Such is actually the case, for a small flask in the possession of Kouchakji Frères shows an exceptionally thick square lump at the bottom of the flask, while the bowl of the flask is exceptionally thin.

Stratified Mosaic Glass.—The flasks have a striking similarity to beads made of the same type of glass, and it seems probable that the flasks resulted from the effort of the artisan to produce flasks from the same material from which his beads were made, because I think the beads came first, the flasks later.

Simplest Form, Longitudinally Striped.—The artisan made a tube of striped mosaic glass by rolling up a sheet so that the stripes would all remain longitudinally parallel. The tube was closed and the blower blew into the distant end. The result would be a flask with longitudinal, more or less parallel stripes, wider on the bowl, narrower on the neck. In closing the distant end of the tube the stripes or strata were often twisted spirally, thus adding beauty to the pattern.

Such flasks are in many collections, the finest example being figured in colors by Anton Kisa in his work on glass (*Das Glas im Allertume*, pl. II, fig. 3), well known as the principal work on

antique glass. In this beautiful flask we see the colored bands proceed from top to bottom in a slight spiral, but in a general way perpendicular to the base. It has a remarkable similarity to many beads of that period which seems to have extended into the first century A.D.

The Stripes Form Loops on the Bowl.—The technique in this pattern is more complicated and it is necessary to give a detailed description of a typical example of such a flask. The finest specimen I have seen is in the private collection of Kouchakji Frères, who have permitted me to study it at my leisure. The flask is $4\frac{1}{2}$ inches high and 11 inches in circumference, the bowl being more or less turbinate on account of the projecting girdle region. The neck is short and narrow. The matrix is deep blue with fine stripes of white which form a horizontal set of six wide loops in the girdle region, the ends of the stripes that run upwards being parallel in the neck. Below the girdle region we see a festoon pattern of five or more vertical rows of white festoons, which also correspond to the five loops above, the upper ends of the festoons penetrating into the angles formed by the loops, and between the five upper loops. An examination with a magnifier shows that the matrix is made up of a series of alternating strata, perpendicular to the surface of the bowl. The white strata are like hair lines, the blue much wider. There are five white and five blue strata in each loop, all standing on end and appearing to vanish down in the matrix of the glass in the manner seen in many types of stratified and columnar mosaic glass in which the minor units are opaque and the matrix, or grosser units, translucent. The festoons show the same characteristic, and when we observe the base or bottom we see that there is a twist of four such strata in the navel. The technique is absolutely faultless, and was as follows:—

Five long strips of stratified glass were made, each strip being twice as long as the loops, each consisting of five layers of thin, white, opaque glass and five layers of thicker, blue glass. These strips were doubled lengthwise, forming five separate loops, like pears with long slender necks. These loops were placed in a horizontal row, fused side to side and then rolled into a tube, which naturally was wider in the loop end than in the end of the parallel stripes. In order to cause the loops to appear on the bowl above the girdle region, the tube had to be lengthened towards the base. And this was done by first making a long

strip of stratified glass of two white and two blue layers, retaining the same proportions of thickness as in the loops. This strip was twisted spirally into a tube of the same thickness as the loop tube and the two tubes were fused together so as to form a longer tube. The lower twisted end was closed in twisting, as the pattern shows distinctly. We had now a single long tube in which the future pattern was in a compressed state and all that was needed to bring it out as we see it on the bowl was to blow in the open free end of the tube while the rest of the tube was brought to fusion. Finally the lower part was surface dragged.

Another yet more complicated pattern is seen in the Evan Gorga collection in Rome. This bowl-flask is of stratified glass in white and violet layers. It has four loops on the girdle, but possesses the characteristic that the central field in each loop consists of *plumate mosaic glass* of alternating leaves of white and yellow, they being so arranged that they could not possibly have been produced on the bowl *after this had been blown out*. In fact the plumate mosaic fields consist of fragments of *already made* plumate glass evidently taken from another broken bowl and fitted in when the four loops were rolled into a tube, the white leaves ending sharply and abruptly against the innermost band in the loop.

These two types being the most complicated and thus most difficult to explain satisfactorily, all others may now, in order not to lengthen this article too much, be deferred to a future time, and it remains only to summarize the conclusions based upon the arguments set forth above.

In regard to the actual blowing of these earliest blown flasks, we can assume three different methods.

The cylinder of glass was blown into directly without a mouth piece, or a metal tube was used. If this metal tube was inserted deeply in the cylinder, the neck of the bowl would correspond to the length of the tube and the bowl would spread out abruptly, as, for instance, in the Perugia flask or in that of the Metropolitan Museum. Both are rarer than the next form. If no metal pipe was used, or if it was not deeply set in the glass tube, the glass bowl would widen out gradually and carry the pattern along. Such flasks are very common in collections.

In regard to flasks which show no meeting seams between the loops and which were made from a solid bar of mosaic glass, the technique was more or less the same. These flasks are generally

much thicker than the others, but their capacity is small. Some seem to have been bored out while fusing and only slightly enlarged by blowing.

If the correctness of my investigations set forth in a superficial manner in this paper is sustained, we may conclude that:

1. There are two distinct types of glass-blowing, one from a tube of glass; one from a bubble of melted glass. The tube-blowing is the earliest, invented in the Ptolemaic period.

2. The earliest blown vessels are made of mosaic glass which could not be blown from a bubble, and the only way to explain their nature is to assume that they have been blown from tubes.

3. The discovery of glass-blowing was the result of the effort of the artisan to make flasks out of the same kinds of mosaic glass from which he made his beads. The various steps leading to glass-blowing from a bubble would be about as follows:—Mosaic glass; mosaic glass beads; cylinder made of mosaic glass; closing the cylinder at one end and blowing in the other; using a metal tube as mouth piece; taking a film of fused glass on the end of the pipe and producing a bubble.

4. No blown glass vessels existed before the Ptolemies. During this period the four great events in the glass industry were the discovery of columnar mosaic glass; the dipped and cut-off rod; the blowing of glass first from a cylinder and later from a bubble by means of a metal tube or pipe.

GUSTAVUS EISEN.

FRAGMENT OF A VASE AT OXFORD AND THE
PAINTER OF THE TYSZKIEWICZ CRATER
IN BOSTON.¹

THE fragment reproduced in Figure 1 came from Cervetri and was part of a pelice. The subject is made clear by a pelice in the Castellani collection at Rome. On the Castellani vase a workman is seated holding a helmet in his hand and polishing it with a file; facing him stands Athena, bareheaded, with spear and shield; at his back stands another Athena, this one helmeted, a spear in her left hand, her right extended holding out a crest. Enough of the Oxford vase remains



FIGURE 1.—FRAGMENT OF A PELICE IN OXFORD

to show that it was a replica,

by the same painter, of the Castellani pelice; an armourer is making a helmet for Athena.

But why are there two Athenas? I take the Athena at the right-hand side of the picture to be a *statue* of Athena, complete but for the helmet; the Athena at the left is the goddess herself, who is present in the workshop and ready to help the helmet-maker, just as she is found in a potter's shop on the late archaic hydria in the Caputi collection (*Annali*, 1876, pls. D-E), and at

¹ I owe my thanks to Mr. D. G. Hogarth, Mr. L. D. Caskey, Mr. A. H. Smith, Dr. Waldhauer, and Dr. Blinkenberg for their kind permission to publish vases in Oxford, Boston, London, Petrograd, and Copenhagen.

an earlier period on the craftsmen cup by the Euergides painter in the Acropolis collection at Athens.¹

There are two other vases with pictures of helmet-makers. One is the pretty little box with the love-name Thaliarchos, in the Petit Palais at Paris (Klein, *Liebl.* p. 88), which resembles the work of Epiktetos; the other the ripe archaic cup in Oxford (*J.H.S.* XXIV, 1904, p. 385; F.R.H. III, p. 81), which is in the



FIGURE 2.—CALYX CRATER IN BOSTON, FROM THE TYSZKIEWICZ COLLECTION; SIDE A

same style as some of those cups which bear the love-name Lysis. The two pelicae are earlier than the cup, a little later than the box; they must have been painted at the beginning of the fifth century.

¹ See *J.H.S.* XXXIII, 1913, p. 353, No. 44. Athena is sitting opposite the vase-painter who is figured in *Jb. Arch. I.* XIV, 1899; I think he is drawing her picture.

I shall call the anonymous artist who painted them, after his best work, the painter of the Tyszkiewicz crater in Boston (Figs. 2 and 3).¹ The Tyszkiewicz crater is well known; it has been published by Robert and by Froehner, and reproduced, for comparison with the Aeginetan pediments, in Furtwängler's *Aigina*. It represents two scenes from the Trojan war: on one



FIGURE 3.—CALYX CRATER IN BOSTON, FROM THE TYSZKIEWICZ COLLECTION; SIDE B

side Achilles and Memnon, with their mothers encouraging them, are fighting over the dead body of Melanippus; on the other, Diomedes, assisted by Athena, strikes down Aeneas, who is protected by Aphrodite. A band of flower-pattern above and below, palmettes between the pictures, tongues round the handles

¹ There is a good deal of brown inner marking which is not indicated in Robert's drawing and does not come out in the photographs.

and at the base of the vase; the persons have their names inscribed beside them; the shape is the early, massive kind of calyx-crater.

The Tyszkiewicz crater has been attributed to Douris, to the Kleophrades painter, and to others; I myself, some years ago connected it with the wrong group of vases.¹ I now give a list of the Tyszkiewicz painter's works.

I. Calyx-crater.

1. Boston, 97. 368. From Vulci. Figures 2 and 3. Robert, *Scenen der Ilias und Aethiopis*, plates; Froehner, *Coll. Tysz-*

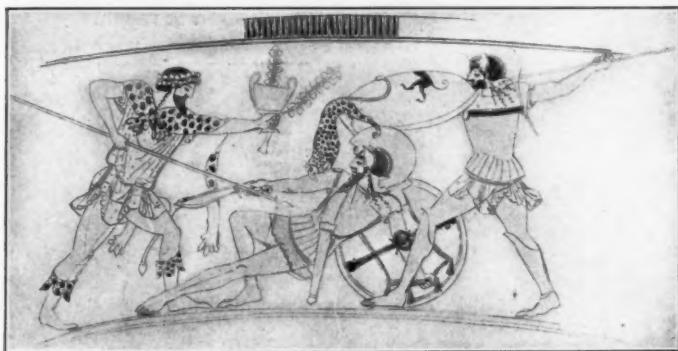


FIGURE 4.—STAMNUS IN THE BRITISH MUSEUM; SIDE A

¹ *J.H.S.* XXX, 1910, p. 38, note 5 (2). The four vases there mentioned are by the painter of the Aegisthus vase in Bologna. His works are the following: Column-craters in Bologna (230; Zannoni, *Scavi della Certosa*, pl. 79, 1-3; A, Death of Aegisthus; B, Komos) and in Vienna University (A, Man and naked woman; B, Komast; mentioned in *Arch. Anz.* 1891, p. 179, No. 2). Calyx-craters in the Louvre (G 164; *Monumenti*, 1856, pl. 11; A, photograph by Giraudon; A, Apollo and Tityus; B, Woman and man) and in the Hofmuseum at Vienna (619; *Arch. Zeit.* 1877, pl. 14; A, Man giving meat to boy; B, Youth). Stamni in the Vatican (*Mus. Greg.* II, pl. 19, 1; A, Nike running to resting man; B, Men and women) and in Florence (3994; A, Nike flying to altar, between two boys; B, Women). A pelice in London (Brit. Mus. E 375; *Él. Cér.* I, pl. 50; A, Zeus pursuing woman; B, Woman and youth), and another which was at one time in the Munich market (*Kunstbesitz eines bekannten norddeutschen Sammlers*, 4 Abt., Helbing, 22 Feb., 1910, pl. 21, No. 816; A, Woman seated between two others; B, Woman and two youths). A hydria in London (Brit. Mus. E 197; Komos; Youth pursuing woman), an oenochoe in Munich (2449; Jahn, 262; Man, and boy with leg of meat), and a neck-amphora with convex handles in Naples (A, Two youths, one with a stick; B, Youth).

kiewicz, pls. 17-18. A, Achilles and Memnon; B, Diomedes and Aeneas. Love-name Lacheas; Klein, *Liebl.* p. 96, No. 7.

II. Column-craters; the pictures framed.

2. Munich 2370 (Jahn, 746). From Magna Graecia. Stackelberg, *Graeber der Hellenen*, pl. 41. A, Heracles and Pholos: B, Maenad and sileni.

3. Rome, Villa Giulia (Helbig, 1808 G). From Nepi. A, Heracles escorted by Hermes, Dionysus, and a silenus; B, Komos.

III. Volute-crater; the pictures on the neck, the body black.

4. Syracuse. From Syracuse. *Notizie degli Scavi*, 1891, p. 412. A, Theseus and the Bull; B, Heracles and the Lion.



FIGURE 5.—STAMNUS IN THE BRITISH MUSEUM; SIDE B

IV. Stamni.

5. London. Brit. Mus. E. 443. From Vulci. Gerhard, *Auserl. Vas.* pl. 54. From new drawings, Figures 4 and 5. Gigantomachy; A, Dionysus and Giants; B, Apollo and Giants.

6. Petrograd, 643 (Stephani, 531). Details Figures 6 and 7. A, Peleus and Thetis; B, Nereids running to Nereus. The black line on the right arm of Figure 6 is a "pentimento." With Figure 7 compare the much more careful figure of Aphrodite on the Boston crater.

7. Formerly in the Roman market (Hartwig). A, Hermes escorting Aphrodite and Athena ("Judgment of Paris"); Aphrodite with dove and flower, Athena with two spears; Hermes with kerykeion; B, Three women.

I am inclined to think that the stamnus with Theseus and the Bull, formerly in the Roman market and now lost (Gerhard, *Auserl. Vas.* pl. 162, 1-2), may be by the Tyszkiewicz painter, but Gerhard's picture is too poor for me to be certain.

V. Hydriae-calpides: (a) The picture on the shoulder, framed.

8. Formerly in the Jekyll collection. Naked women washing.

9. London. Brit. Mus. E 165. From Vulci. *El Cér.* I, pl.

3. Gigantomachy.



FIGURE 6.—DETAIL OF STAMNUS IN PETROGRAD

(b) The picture on the body, framed.

10. Louvre G 53. From Vulci. Pottier, *Album*, pl. 94. Peleus and Thetis.

11. Munich 2425 (Jahn, 283). Gerhard, *Auserl. Vas.* pl. 169, 1-2; small, *Monumenti*, I, pl. 26, 26. Menelaus leading Helen away.

(c) The disposition of the picture not known.

12. Formerly in Lord Pembroke's collection. *Gaz. Arch.* 1879, pl. 6, *Jb. Arch. I.* XXVI, 1911, p. 158. Winged goddess serving gods with wine.

VI. Nolan amphora with triple handles.

13. Formerly in the Jekyll collection. A, God served with wine by two winged goddesses; B, Goddess served with wine by winged goddess, and women with torches. One of the earliest real Nolan amphorae.

I think it likely that the Nolan amphora in the Thorvaldsen Museum at Copenhagen (99; A, *Él. Cér.* II, pl. 99; A, Artemis and Actaeon. B, Silenus carrying another pickaback) is also by the Tyszkiewicz painter.



FIGURE 7.—DETAIL OF STAMNUS IN PETROGRAD

VII. Pelicae; the pictures framed.

14. Vatican. From Vulci. *Mus. Greg.* II, pl. 62, 2= Gerhard, *Auserl. Vas.* pl. 161. A, Theseus and the Minotaur; B, Youth, man, and woman.

15. Rome, Villa Giulia, 1129. From Falerii. A, Seated woman holding wreath, and youth; B, Woman holding wreath, and man.

16. Boulogne, 134. *Le Musée*, II, p. 279. A, Youth with panther offering a cock to a boy; B, Man with hare and boy with cake and leg of meat.

17. Copenhagen. A, Figure 8. A, Man offering lyre to youth; B, Man with purse, and youth.

18. Formerly in the Jekyll collection. A, Man with phiale and woman with oenochoe; B, Man with phiale and youth with oenochoe.

19. Louvre, G 237. A, Woman with ladle and cup, and seated youth with cup and stick; B, Woman seated with wreath, and youth.



FIGURE 8.—PELICE IN COPENHAGEN

20. Rome, Castellani collection. *A*, Helmet-maker making a helmet for a statue of Athena; *B*, Man and seated youth.

21. Oxford, 1911.620, fragment. From Cervetri. Figure 1. Part of a replica of the last. Two other fragments may belong to the same vase, and are at any rate by the same painter:

1913.146 (raised hand and part of woman holding spear and shield) and 1911.625 (part of a head and raised hand).

Fragments (of pelicae?)

22. Athens, Acropolis, two fragments: G 331 (head of youth l.) and another (head of man, in chiton and himation, l.). From Athens.

23. Athens, Acropolis, G 56 b (young soldier running). From Athens.

VIII. Amphora (shape as *Burlington Catalogue*, 1904, pl. 99, No. 83); the pictures framed.

24. Orvieto, Conte Faina, 33. From Orvieto. A, Zeus and Ganymedes; B, Youth offering wreath to boy with hoop.

IX. Guttus.

25. Boston, 13.169. From Cervetri. Hero and his mound.

X. Fragment.

26. Athens, Acropolis. From Athens. Ajax and Cassandra at the statue of Athena (blazon Gorgoneion).

Few of these vases have any merit. The man draws badly. But size, shape, and composition make the Tyszkiewicz crater an imposing thing; and there is Homeric quality in the giant, bull-like fighters; the Homeric of the eleventh book of the Iliad.

Although the drawing is worthless, the Boston guttus is a remarkable piece. It is the earliest guttus, I think, we possess, and certainly the most interesting, so far as subject goes. A bearded hero with spear and shield is rising out of a large mound; attached to the mound, or leaning against it, a discus, a pair of halteres, two fillets, and three acontia; a vivid picture of the origin of athletic contests.

There are still a few vases which resemble these twenty-six in many ways, but seem to be the work of a pupil, rather than of the Tyszkiewicz painter in his later days. I shall call this pupil the painter of the Iliupersis in Rome.

I. Column-craters: (a) The pictures framed.

1. Rome, Villa Giulia (Helbig 1793 f). From Falerii. Milani's *Studi e Materiali*, III, pp. 160-161. Iliupersis. A, The Death of Priam; B, Woman attacking youth.

2. Corneto, Conte Bruschi. From Corneto. A, The Return of Hephaestus; B, Komos.

3. Petrograd. Inv. 14119. From Kertch. A, Dionysus and two maenads; B, Sileni pursuing maenads.

(b) The pictures not framed.

4. Palermo. A, *Bull. della Commissione di Antichità in Sicilia*, 1872, pl. 5, fig. 1. A, Youth with phiale and woman with oenochoe; B, Youth.

5. Syracuse. A, Poseidon pursuing woman.

II. Pelice.

6. Syracuse. From Gela. A, *Mon. Ant. Lincei*, XVII, p. 178. A, Man with purse and woman; B, Youth and woman.

J. D. BEAZLEY.

OXFORD.

STUDIES IN THE HISTORY AND TOPOGRAPHY OF
LOCRI. II¹

BUMELITEIA

This small settlement, known from the *ethnikon*, Βουμελιταιεῖς (*I.G.* VII, 3078; between 221 and 216 B.C., see above p. 53, n. 1), clearly lay east of the Copaic Lake, as its position in the list of towns mentioned indicates. Oberhummer (*Pauly-Wiss.*, s.v.) places the village in Boeotia; Beloch (*Griech. Gesch.*, III, 2, p. 360) in East Locris in the neighborhood of Larymna. Both of these scholars knew only of this inscription, but in the work of the late geographer Hierocles (shortly before 535 A.D., K. Krumbacher, *Byz. Literaturgesch.*,² p. 417; Kiessling, *P.-W.*, VIII, col. 1487) the town appears in the following connection (pp. 644 f.): Ὀπους, Ἀνάστασις, Ἀδελφος, νῆσος Εὐβοία, Ἀνθοδών (= Anthedon), Βουμελιττά [*var.* Βουμέλιτα], Θέσπια, etc. This record of Hierocles is confirmed by that of the *Notitia Episcopatuum* published by C. de Boor, (*Zeitschr. f. Kirchengesch.*, XII, 1891, pp. 509 ff.).² Here, under the eparchia of Hellas, appear, 740 ὁ Ὀπης (*sic*, = Opus),³ 741 ὁ Ἀναστασίας, 742 ὁ Βουμέλιτον

¹ See pp. 32-61.

² This work as a whole is not likely to be later than the reign of Leo III (716-741 A.D.), and may be a few decades earlier even than that; see H. Gelzer, 'Die kirchliche Geographie Griechenlands vor dem Sklaveneinbruch,' *Zeitschr. f. wiss. Theol.*, XXXV, 1892, pp. 432 ff. It seems to be a record of the Greek cities in the post-Justinian epoch before the pestilence and the great Slavic invasion of 746 A.D., and contains many names of bishoprics which are not recorded in the decrees of early councils or in the Byzantine period. This is, of course, to take the *Notitia* at its face value as a record of bishoprics. L. Duchesne, 'Les anciens évêches de la Grèce,' *Mél. d'Arch. et d'Histoire*, XV, 1895, pp. 375 ff., has made a very strong case against the validity of this *Notitia* as an official document, and it must be admitted that it is difficult to explain so extraordinary (and merely temporary) an increase in the bishoprics of this single province. However, for our purpose it makes little difference whether Bumeliteia was a regular bishopric or not; that it was an important place in the early Christian period I think I shall make plausible below.

³ For the numerous errors cf. Gelzer, *op. cit.*, pp. 420, 434 ff.

(sic), 743 ὁ Ἀντιέδου (sic, = Anthedon), 744 ὁ Θαβαίδου, etc. Now the geographical order which is exact and carefully followed (736-739 = Thermopylae, Scarphea, Elatea, Abae), and the comparison with Hierocles (who may have been following a similar list of Bishops from an earlier period—so Ramsay for Phrygia, and Gelzer, *op. cit.*, p. 424) make it quite certain that Bumeliteia, between Opus and Anthedon, was meant. This is the best of evidence that Bumeliteia had overshadowed Larymna some time before the age of Justinian, else Larymna would have

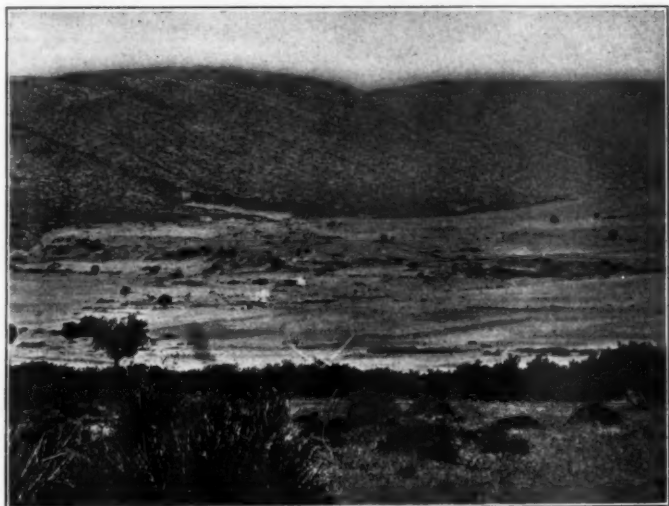


FIGURE 8.¹—MARTINO; THE SITE OF BUMELITEIA

been mentioned. Some considerable confirmation of the importance of Bumeliteia as a centre of early Christianity is the extremely large number of ancient chapels in the environs of Martino, where Bumeliteia, as appears below, must be located, while Larymna has very few, the only large one being the ruined church of Hagios Nikolaos between Upper and Lower Larymna. Nowhere in Greece did I find them so plentiful as here at Martino.²

¹ Figures 1-7 are in the previous article, pp. 32-61.

² In addition to the full complement of churches in the modern village of Martino, there are Hagios Georgios and Hagia Panagia to the southeast, which were important enough to rebuild after the great earthquake, and besides

The view of Beloch is, therefore, I believe, correct, although he had nothing to argue from but the order of names in the inscription. We are far better informed about the geography of Boeotia than about that of East Locris, especially this portion of the country, and an obscure locality is more naturally to be looked for in Locris than in Boeotia. Finally, the name is significant. It must mean "Ox-honey-town."¹ The prefix *βου-* was frequently employed by the Greeks, as is well known, in colloquial compounds to indicate large quantity, or mass, or degree, quite as colloquial English uses "horse" in "horse-radish," "horse-laugh" and the like.² Now apiculture is one of the chief, in fact almost the only notable industry of modern Larymna. While visiting the springs in the Revma below Upper Larymna I was struck with the number of honey bees, and on leaving Larymna for Martino I noticed at the distance of about half a mile west of the town a large number of bee houses gathered in one spot, and was told that the whole southern portion of the rocky and barren Aëtolimni peninsula, only small spots of which may be cultivated, or will support even goats, provides excellent and abundant pasturage for bees. "Ox-honey-town" must therefore have been in this general region.

As there is no other location along the coast for a second town in the Aëtolimni peninsula, Bumeliteia must be sought for near the modern Martino (see below), where remains of an ancient settlement have been discovered. Since Kastri (Larymna), as well as two of the lower mills, was subordinate to Martino

that I was shown at least three other ruined chapels between these two, and visited three more as I left town on the road to Malesina. From one, Hag. Demetrios, I secured some new inscriptions, *A.J.A.* XIX, 1915, p. 322. I regret now that I did not make a careful record of the chapels, but I feel sure that there are no less than eight, and there may be ten or a dozen within half a mile of the village of Martino, most of them, of course, mere piles of stones in consequence of the earthquakes of 1894 when every single structure in this vicinity was thrown down, and a few now entirely abandoned.

¹ Oberhummer and Beloch write Bumeletaia, which is indeed quite possible from the *ethnikon*. But, as in the case of the closest parallel, Meliteia in Phthiotis, Dittenberger has convincingly shown (*Hermes*, XLI, 1906, pp. 169 ff.) that the *ethnikon* was *Μελιταεῖς*, while the town name was *Μελίταια*, and has given other examples of this same variation, I have thought it safest to postulate the *-ια* ending in this instance. Of course the form *Βουμελιττά* [*Βουμέλιτα*] in Hierocles, and the even more barbarous form in the *Notitia* have no bearing on the correct ancient usage.

² See on this use especially J. P. Postgate, *Journ. of Philol.*, VIII, 1879, pp. 116-21, and Herwerden, *Lex. Graec. suppl. et. dial.*, s.v. *Βούτρηδες*.

in Ulrichs' time (see above p. 34, n. 2), it seems likely that this relation represents a much older adjustment. We may, with considerable plausibility, conjecture that sometime after the beginning of our era, very likely during the chaotic conditions which prevailed throughout a good part of the third century before the restoration under Diocletian, many if not all of the inhabitants of Larymna retired to Bumeliteia, tilling the district from that safe point in the hills, only a few miles distant. This transfer must have taken place before the time of Justinian and probably before that of Diocletian even (see above under "Larymna," pp. 54 ff). Larymna ceased to exist, therefore, until the modern town sprang up after the war of independence.

As for the location and remains of the place, Ross was, I believe, the first to speak of them (*Reisen d. Königs Otto*, u.s.w. Halle, 1848, I, pp. 98 ff.)¹ M. de Koutorga visited the spot in 1860 (*R. Arch.*, 2nd Ser., 1860, ii, pp. 394 ff.), but contented himself with repeating the description by Ross, and arguing for an identification with Cyrtone.² Paul Girard saw the place in 1877 (*De Locris Opuntiis*, Thesis, Paris, 1881, pp. 36 ff.), and gave a short description, noting especially that the chapel Hagios Georgios is in large part composed of ancient marble fragments, and accepting Koutorga's identification. Finally Lolling visited the place, copying a number of inscriptions, which Dittenberger (*I.G.* VII) classified under Hyettus, and made a brief note of ruins there in Baedeker (4th. ed. [English], 1909, p. 187). The church of Hag. Georgios, frequently mentioned as the repository of inscriptions, on the site of these ruins, was destroyed in the earthquake of 1894, and rebuilt in 1895. For the church and the yard wall free use was made of the ancient hewn stones on the site, with the result that I could not locate, in the few minutes which I had at my disposal, before night fell, the wall that Ross

¹ His description runs as follows: "Hinter dem Dorfe, auf der Südostseite (Girard is wrong in calling them "meridiem versus") fand ich auf einem kaum sechszig Fuss hohen Felshügel ausgedehnte Spuren eines festen Städtchens; am Rande der Höhe Fundamente der Einfassungsmauer, im Innern bearbeitete Blöcke, auch antike Grabsteine, aber nur Namen erhaltend wie ΕΦΟΔΡΙΑΣ etc. . . . Ich gebe es . . . nur als eine auf Pausanias ziemlich unklarem Berichte ruhende Vermuthung, dass dies Städtchen Kyrtones oder Korseia sey." Philippson locates the site properly on his map, *Zeitschr. d. Ges. f. Erdk. zu Berlin*, XXIX, 1894.

² This identification was accepted by Bursian, *Geogr. von Griechenland*, p. 212.

mentioned.¹ Small heaps of ancient squared stones are to be found, however, at a number of places on the plateau, and there can be no doubt of the existence of a fair sized village in antiquity. The location is as good for purposes of defense as that of Martino, and one can readily see where the walls must have been from the natural lines of the plateau along the edges of the valleys and ravines. This must be the site of *Bumeliteia*, as it is the only ancient town in the immediate vicinity of Larymna and in its economic district, being separated from other ancient towns by high, barren hills.²

As noted above, however, these ruins have been identified with Cyrtone (or Cyrtones). This cannot be right, however, for (1) Pausanias (IX, 24, 4) says that Cyrtone was only 20 stades from Hyettus. Now that we know where Hyettus was, i.e., the Metochi of Dendra,³ it appears that it is more than 6 miles from Martino in an air line, and probably 7 or 8 by road, that is to say,

¹ I noted by the door of Hag. Georgios four small antique marble columns, eight to ten feet long, and inside a well preserved late Corinthian marble capital. In the churchyard wall are two fragments of Corinthian capitals of fine white marble. The inscription on the statue base inside the church has long since been published. For the new inscriptions which I found in various chapels about Martino and in the town itself, see *A.J.A.* XIX, 1915, p. 322. Dittenberger (in *I.G.* VII, 2899, 2842, 2841, 2844, and 4165-71) lists the Martino inscriptions under Hyettus in Boeotia. This is unquestionably wrong. Martino belongs topographically and historically to the Larymna valley, and must have shared the same political associations with Larymna at all times. There is besides no suggestion of Boeotian character in dialect or subject matter in any of the inscriptions, which resemble greatly in style those of Larymna. In fact it is probable that some of them were actually transported from Larymna during the long period when that region was administered from this site in the interior.

² For a view of the site see Figure 8. This is taken from northeast of Martino, about three fourths of a mile. Martino lies just to the right. The church of Hagios Georgios is above and to the left, that of Hagia Panagia below and to the left. Only a few feet away from the Panagia is the village well. The other building in the picture is a new mill.

³ Although the proper site of Hyettus has been known now for nearly 40 years it has hardly ever been placed properly on the maps, neither by H. Kiepert, *F.O.A.* XV, and R. Kiepert, XIV, Curtius-Kaupert (*Sitzb. Berl. Akad.* 1892, p. 1182), Philippson (*Zeitschr. d. Ges. f. Erdk. zu Berlin*, XXIX, 1894, Tafel I), Ed. Meyer (*Theopompe Hellenika*), not even by Frazer (vol. V, map facing p. 110) following Curtius-Kaupert, although in his commentary he is correctly informed, as indeed is R. Kiepert (cf. p. 2 of the accompanying description). The only reliable detail map of the region is by Bölte (*Pauly-Wiss.* IX, col. 91-2, after the French chart, with proper entries). Girard, *op. cit.*, map, was the first, I believe, to give Hyettus its proper location.

at least 65 to 75 stades instead of 20.¹ (2) Cyrtone was built *ἐπὶ δρους ὑψηλοῦ*, while the village at Martino is on a hill which Ross estimated as not over 60 feet in height. Nor is it even on a spur or foothill of anything that can be called a mountain.² (3) The highest part of the mountain upon which Cyrtone was situated lay between Cyrtone and Corsea *ἐκ δὲ Κυρτώνων ὑπερβαλόντι τὸ δρος πῶλισμά ἐστι Κορσεῖα*. Now, no matter where Corsea be located in East Locris there is no "lofty mountain" the summit of which must be passed by anyone leaving the village beside Martino. As for the spring which M. Koutorga claims to have found in 1860, it seems to have disappeared or declined in importance, for I saw nothing of it, and our *agogiat* said the people had to use wells and cisterns exclusively. Certainly the big well at the foot of the hill was in almost constant use for purposes of drinking and washing during the hours of our stay. A minor secondary source of supply is a small spring about a mile north of the town on the way to Malesina, but it is neither on a mountain, nor does it pour out of a rock, nor is its water especially cool, though there are a few trees near by. Whether or not this was the spring meant by M. Koutorga I do not know, but if so his description is astonishingly inaccurate.³

¹ There is, to be sure, something very much the matter with the distances which Pausanias gives in this chapter. For example, he puts Hyettus only 19 stades from Copae, by way of Olmones, whereas in fact it is more than 5 miles in an airline! The distances given by Pausanias will have to be abandoned anyway, but at all events they cannot be used, as Girard actually does (*op. cit.*, p. 37, claiming that the Metochi Dendra is about 20 stades from Martino!), as evidence for identification. Koutorga (*op. cit.*, p. 395) tries to make it out that the way from Martino to Topolia is only a little more than two hours' walk and so fits well with the 39 stades mentioned by Pausanias. But Martino is more than 6 miles in an airline from Topolia, and considerably more by road, so that the 39 stades of Pausanias, ca. 4 1-2 miles, do not fit very well even if that were what he meant. As a matter of fact he says nothing about the direct route from Copae to Cyrtone, but only that Olmones is 12 stades from Copae, Hyettus 7 from Olmones, and Cyrtone 20 from Hyettus, a very different thing indeed.

² Despite Girard (*op. cit.*) who says this "tumulus" meets the description. I am certain the highest point of this hill cannot be 100 feet above the lowest level of the valley some considerable distance away. It is markedly lower than the hill of Martino itself.

³ See Figure 9. Even before the earthquake of 1894 the well below the village was the sole source of water supply (Skuphos, *op. cit.* [p. 46, n. 1], pp. 415, 445), while from its depth and the configuration of the district it seems extremely improbable that there has ever been a spring here, at least in modern times.

Somewhat the same objections apply to an identification with Corsea. There is no "lofty mountain" to cross over in order to reach this spot, and it is impossible to pass from this place directly to the plain of the Platanus, for that is undoubtedly the Rheveniko west of Proskyna, which is separated from Martino by several miles of low barren hills.¹

As, therefore, no other identification of the site near Martino can stand, we may unhesitatingly ascribe to it the name Bumeliteia.



FIGURE 9.—THE SOLITARY SPRING

CYRTONE AND CORSEA

We have seen above (under "Bumeliteia") that the site near Martino cannot be identified with either of these two names. Others have been proposed, however. Lolling² places Cyrtone at Monachou³ and Corsea at Cheliadou. These points are on

¹ On these places, Cyrtone and Corsea, see the next subdivision.

² *Baedeker* (Engl. tr.), p. 187; *Müller's Handbuch*, III, p. 128. The older localization, at what has since proved to be the site of Hyettus, was apparently due to Forchhammer, *Hellenika*, p. 179.

³ Monachou lies 1½ hours (1¼ return—fast walking) slightly south of west from Martino, a little over five miles as measured by my pedometer, when

almost a straight line from Topolia (Copae) to Halae, and if one supposes that Pausanias actually made just that trip, they have so much in their favor. But the distances given by Pausanias are absurdly wrong; Copae to Olmones, 12 stades, in reality *ca.* 50 by air line; Olmones to Hyettus 7 stades, in reality *ca.* 22 by air line; and now if Cyrtone be set at Monachou, the distance is 36 stades by air line as against 20 by road according to Pausanias. And again Monachou is about $3\frac{1}{2}$ miles, or *ca.* 33 stades, from Copae by air line, a distance which agrees with no other. Such discrepancies make it impossible to accept any of the numbers which Pausanias gives in this connection. It also raises the question of good faith, at least of personal observation. Heberdey (*Reisen des Pausanias*, pp. 102, 107), indeed, thinks that the Periegete went to Locris by way of Hyettus, and returned to Orchomenus by way of Opus and Hyampolis. This, it may be observed, is only a theory, devised to make explicable some scattered, apparently first-hand data, and the journeys of Pausanias are far too uncertain to justify pinning faith to any conjectural restoration of them. There are, further, two very weighty

I visited the place July 9, 1914, and about three and one half miles (air line) slightly east of due north from Copae, which is distinctly visible from the town site. On Bölke's map (*Pauly-Wiss.* IX, col. 91-2) it would be on the southern slope of the hill between the two branches of the small torrent north-east of Topolias.

The following description of the site I abbreviate from my note book. The place is called Palaiochori. A gorge running north and south with a good spring in the bottom lies to the east of the hill on which are the ruins. Another torrent from the northwest meets this stream a short distance south. Passing south along the east side of the hill one finds a small ruined chapel, and near by a small marble column and broken pottery, with a statue base of bluish marble and a stele base of red limestone. Two minutes further southwest is a larger ruined chapel, containing many hewn stones and pieces of pottery in the walls. Two small broken columns of green-streaked marble stand inside the chapel. About 30 yards to the northeast is a broken limestone drum of a large column about 0.96 m. in diameter. In the portico of the chapel stand two small columns with a swelling band at the top. The material is a coarse-grained marble. Near by are fragments of another of somewhat the same material. About 100 yards northwest of the chapel is a large limestone fountain basin, about 1.10 m. in diameter, the bowl about 0.3 m. deep, with a hole cut in one side for the water to flow out. Traces of the town wall can be seen on the east, south, and northwest sides. The summit of the hill has apparently been levelled off, and many squared blocks lie around. There are some traces of fortifications here also. Figure 10 is taken from the summit looking down over the lower chapel and up the ravine to the west. The characteristic form of Mount Chlomos is seen in the distance.

objections: (1) Pausanias nowhere shows the slightest first-hand acquaintance with things Locrian, and nowhere treats them systematically, although he indicates at one point (IX, 23, 7) that he had intended to do so. (2) Heberdey must assume that Pausanias swung around by Opus and visited Hyampolis and Abae on his way to Orchomenus. But it is as certain as anything can be in Pausanias, that he went from Orchomenus *towards* Opus, turning a little to the left in so doing, and reaching first Abae and then Hyampolis (X 35, 1 and 5).¹ All that is certain is that Pausanias started out once to describe a route leading north from Copae to Halae, and once a route leading from



FIGURE 10.—VIEW FROM THE SUMMIT OF MONACHOU (PALAIOCHORI),
LOOKING WEST

Orchomenus to Opus, but that in both cases he stopped before he reached the end. It is almost certain that these two side trips were not continuous. Now personal observation is expressly asserted² for Olmones, but not at all necessarily implied for

¹ See also Robert, *Pausanias als Schriftsteller*, pp. 256 ff., who points out how Orchomenus is a "Hauptzentrum," and locations are described upon roads radiating from it, not vice versa.

² Kalkmann may have gone too far in scepticism occasionally, but I feel that his attitude is in the main justified. Constant suspicion will alone avoid difficulties. Where Pausanias claims flatly that he actually was, it is possible that he may have been: wherever he does not do so, it seems nearly

Hyettus, Cyrtone, or Corsea, and even Heberdey (p. 102) makes no claim that Halae was visited. The remark about the character of the trees in sacred groves at Cyrtone and Corsea which Heberdey (p. 102 f.) and Hitzig-Blümner (*ad loc.*) emphasize, proves nothing, as Pausanias was always interested in ἄλσθ and in the kinds of trees therein,¹ and could have secured his information perfectly well from some literary sources.

Again, in travelling from Copae to Halae (a point which he never reached anyhow), if Cyrtone be at Monachou, why should he have made the absurdly long detour by way of Hyettus, which would have led him around three-fourths of a circle and in a course of fifteen miles at least would have left him hardly more than four miles from his starting point? Further, there is no "lofty mountain" at Monachou, nothing but the commonest of low hills, nor does the road thence to Cheliadou pass over anything that can properly be designated a "mountain crest." The only spring now existing at Monachou is right beside a torrent bed and could scarcely be described as pouring forth from a rock in any way different from ordinary springs.

I venture, therefore, to suggest that Cyrtone lay not at Monachou, but at Kolaka,² and for the following reasons. (1) It is in the same general line with Olmones and Hyettus, that is, a line drawn from Copae to Kolaka would pass just between these two points. (2) It is not much more than 4 miles in an air line from Hyettus, as near to it as any other unidentified site except Monachou. (3) It does lie on a "high mountain," and, what is more, on the side towards Hyettus from the crest

certain that he never came near the place. Robert (*Pausanias als Schriftsteller*) is certainly right in explaining the characteristic features of his composition in the terms of literary technique. The extremely formal arrangement of routes leading out of Thebes, each bifurcating at the end (pp. 252 ff.), is certainly only a literary device. It is inconceivable that any man should have actually travelled in such wise.

¹ This is a marked feature of his narrative. See the long list in Hitzig and Blümner, III, 2, pp. 990 f., s.v. *Heilige Haine*.

² Leake (*op. cit.*, p. 184), with his customary sagacity, had seen that "Cyrtone lay in a northwestern direction from Copae, that the road to Corsea crossed Mount Khlomo not far to the eastward of the peak, and that, as this summit is the only mountain in this part of Boeotia meriting the description of an ὄρος ὑψηλόν, the city Cyrtone was very near it on the eastern side. Whether any ruins still exist to confirm this opinion, remains to be explored."—Curtius, *op. cit.*, Frazer, *op. cit.*, Philippson, *Zeitschr. d. Ges. f. Erdk. zu Berlin*, XXIX, 1894, map, placed Cyrtone at Dendra, which is certainly wrong: cf. "Bumelietea," p. 158 n. 3.

of it. It is on a spur of Chlomos (1081 m.), the only really high mountain within a great many miles of Hyettus, and one that from its peculiar location is a conspicuous feature of the landscape in Locris, Phocis, and northern Boeotia, and is itself at the very considerable elevation of 492 m., which is higher than that of any other considerable village nearer than Boudonitza or Arachova, distinctly mountain towns. (4) It has a remarkable spring of exceptionally cold water which pours out of the utmost tip of a large rock that projects in a very striking fashion from the side of the hill just below the town. The natives regard

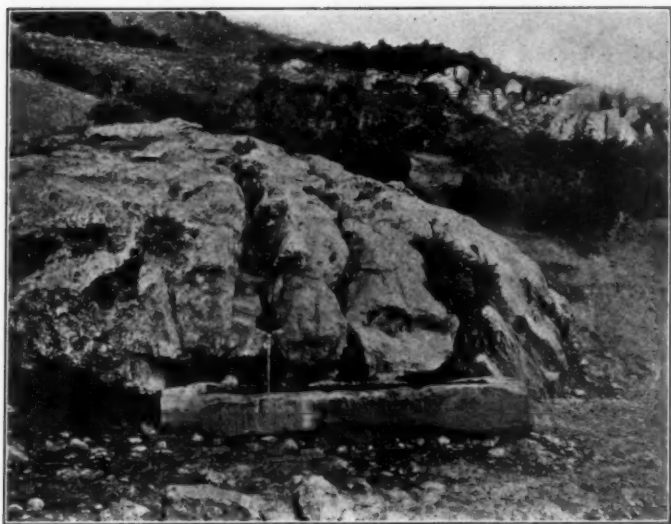


FIGURE 11.—KOLAKA. THE SPRING OF PAUSANIAS

it as a singular spring, and I was very much struck with its peculiar character, having never seen anything like it (see Figure 11).¹ (5) There are considerable ruins near by, some that look as though they might belong to a temple. In the short time I was there, however, I did not trace any city walls.

¹ The rock is an eroded outcrop of the heavy masses of white limestone that are characteristic of this region. On the geological characteristics of this particular district see A. Bittner, *Denkschr. d. kais. Akad. d. Wiss., Math.-Naturw. Cl.*, XL, Wien, 1880, pp. 6, 9.

An inscription has been found in the village, however, and is now in the church of Hagios Georgios (*I.G. IX, 1, 287, cf. A.J.A. XIX, 1915, pp. 337 f.*).¹ (6) In passing thence to Locris east of the Platanus river one would have to cross a mountain (the out-stretching ridges of Chlomos), which lie somewhat higher than the town itself.²

As for Corsea,³ its location is pretty well settled by the two statements that it is on the other side of a mountain from Cyrtone, and only a slight distance above the Platanus.⁴ This will locate it without any doubt near Proskyna,⁵ either at

¹ In the wall of a new churchyard is also a fine marble slab, with columns in low relief on either side. The ancient inscription which occupied the centre was, however, chiselled out, when the wall was erected, and a clumsy face introduced with an inscription giving the date of erection, 1912.

² A. W. Gomme, in *Essays and Studies presented to Wm. Ridgway*, 1913, p. 123, mentions the possibility that the *Γυρτών* (acc.), from which according to Pherecydes (*F.H.G. I, 102a*) the Phlegyes harried Thebes and finally destroyed it, might be emended into *Κυρτώνην*, although he rejects it at once, proposes *Γληχτών*, and finally suggests that Gyrtone may be Gla. It is no doubt wise, in such a thicket of possibilities, to refrain from making emendations. On the other hand, it is not impossible that some fancied resemblance between Gyrtone (which had also the variant Gyrtone) and Cyrtone (with the variant Cyrtone) may have done its part in spreading and confusing the myths regarding the Phlegyes. It is surprising that there is no mention of this Gyrtone in the immediate vicinity of Thebes (Pherecydes, *loc. cit.*, *Θηβαῖοι δὲ, πλησιόχωροι ὄντες*) in Stähelin's article *Γυρτών* in Pauly-Wissowa, VII, col. 2101 f.

³ Not to be confused, as has frequently been done, with the Boeotian Corsiae, as Forchhammer, *Hellenika*, p. 179, and Frazer, *op. cit.*, V, p. 133, f., point out.

⁴ The only stream of any considerable size in this region is the Rheveniko, which must be the Platanus. I was interested to learn that the region about the head springs of this stream is called *Platanaki*, and though this is not an uncommon appellation in Greece, it is very likely a genuine trace of the old name. Whatever the natives may have told Girard (*op. cit.*, p. 39) about the Platanus never going dry, it was certainly dry on July 11, 1914, when I crossed it. The fragments of pottery and limestone, and the grave discovered at the mouth of the Platanus probably represent a small harbor settlement for Corsea, as Girard, *loc. cit.*, suggests. I did not visit the spot.

⁵ The suggestion that it is at Malesina (Koutorga, *op. cit.*, p. 394; Bursian, *op. cit.*, p. 192, both calling the town "Mellenitsa") is quite indefensible. There are no ancient remains at Malesina that the natives know about (the so-called "Enetika" on the Austrian Map east of the town which I visited, is really "Venetika," and undoubtedly only a Venetian watch tower similar to that at Gardinitza, as it commands an extensive prospect up and down the Euripus), and the few inscriptions that are preserved there (*cf. A.J.A. XIX, 1915, pp. 322 ff.*) have probably been brought from elsewhere.

the Palaiokastros,¹ on the hill just west of the town, or else at Cheliadou.² I see little upon which to choose between these two sites, as to a cursory examination they seem to have been of about the same age and size.³ They are situated so close to

¹ Before the church at Proskyna is a small ancient marble column, and a fragment of one has been built into the wall of the church. The Palaiokastros lies on a low, but steep hill, southeast of Proskyna. Girard (*op. cit.*, p. 38) calls it τὸ φρούριον, but the natives when I was there did not use that name. The wall on the east side, of rough polygonal masonry, can be traced for about 175 m. as Girard says; also for about 5 m. on the southeast corner and the northeast corner. On the side next to the village, however, as usually happens, I could find no remains of the wall. But this part is covered with a very dense growth of bushes which made observation difficult. An extremely copious spring pours fourth at the northern end of the hill. Though the site is much larger than Halae, it was not as well fortified, and, as hewn stones and pottery fragments are comparatively rare, I conjecture that it was an older settlement than the one at Cheliadou. Girard locates Corsea here (*loc. cit.*), but he did not visit Cheliadou, though the road which he took led him right past the site. Members of the American School opened a number of graves a few years ago in the region northwest of Palaiokastros up to Cheliadou, and found some remains of a small but solidly built ancient structure in a ravine between the two places, but they have not yet published an account of their excavations.

² Cheliadou lies a scant twenty minutes southeast of Palaiokastros, on a hill top commanding an extensive view. Some remains of city walls can be traced, notably on the east. Broken pottery is abundant. Some good foundations of hewn stones appear on the summit. One looks as though it ought to belong to a small temple wall. Just on the north edge there is a large round block of stone with a small hole in the centre, and about it four sockets filled with lead holding the ends of iron rods in them. Another similar stone is at the south corner, though the holes are empty, and a third, with only two holes, farther south. Their function appears problematical. At Hagios Georgios, 200 yards to the south, there are numerous fragments of pottery, nine small marble columns, one Ionic capital, two slabs of white marble with a conventional running design, and a large limestone fountain bowl. The ruins here, containing much more hewn stone, and showing more evidences of wealth and culture, probably belong to a later date than those at Palaiokastros. Both, however, are in the same valley, and must have used the same *ager*, so that both are doubtless to be identified with Corsea.

³ F. W. Forchhammer, *Hellenika*, p. 179, Leake, *op. cit.*, pp. 184 ff., 287 (cf. Dodwell, *Tour*, II, p. 57), apparently, and Girard (*op. cit.*, p. 38) certainly, place Corsea at Palaiokastros, but their evidence is poor, as Forchhammer and Girard did not visit Cheliadou, and Leake visited neither place. Körte, *Mitt. d. Athen. Inst.*, III, 1878, p., 313, Lolling (*Müller's Handb.*, III, p. 128) and Baedeker⁴ (Engl. tr.), p. 187, followed by Philipsson, *Zeitschr. d. Ges. f. Erdk. zu Berl.*, XXIX, 1894, Map, and Skuphos, *op. cit.*, p. 445, place it at Cheliadou. Ross's tentative localization near Martino has been treated above. It should, perhaps, be noted that Forchhammer in the map accom-

one another that one is tempted to think they may have been but earlier and later settlements of the same community, just as most of the inhabitants of Proskyna moved to the new village of Trygana, which is situated a short distance to the west, after the earthquake of 1894.

And now to conclude with Pausanias: It seems probable that he stopped at Hyettus, and merely reported what information he had of the region north and east. There is nothing in the account of Cyrtone and Corsea that presupposes personal observation. He may indeed have gone to Cyrtone, and then reported on what lay northeast of that point. Opus, of course, lay not far from Kolaka-Cyrtone to the north, but he intended to reserve that for a special treatment. Here he gives a summary of the region between Larymna, which he had mentioned in the preceding chapter, and Opus, which he intended to discuss later. That no great highway runs between Kolaka Cyrtone and Proskyna-Corsea, makes no difference for his purposes: *ὑπερβαλόντι* means no more than "if one cross," and it is quite true that one would find Proskyna-Corsea on the other side of the mountain northeast of Kolaka-Cyrtone, if one actually crossed it in this direction.

Of course these little villages have no history properly so called. They are mentioned but once in antiquity, the passage quoted from Pausanias, and an examination of their probable sites but confirms the presumption of their inconsequence. Their political relations must have been determined by the fortunes of Larymna in whose sphere they lay, and to a less degree perhaps by Halae. Whatever state controlled these two parts of the Aëtolimni peninsula as a matter of course possessed these two hill villages. It may, indeed, be doubted whether Cyrtone was always Locrian. If it was actually located at Kolaka, it would lie indeed just across the divide between the bay of Opus and the Copaic Lake. Yet the divide at this point is singularly level, so much so that it was covered by large fields of wheat in 1914, and the farming as well as the pasture land of the village of Kolaka covers not merely the crest of the ridge here but extends distinctly over to the Locrian side. Indeed, the location of the village is determined solely by the existence of two panning his *Hellenika* set Corsea at the spot where Gell (*Itinerary of Greece*, London, 1819) had noted ruins (i.e., Cheliadou) although he was unable to find them himself, and was inclined to believe that Corsea was close by Proskyna.

springs a little beyond the actual divide. Under these circumstances, and in view of the fact that the Locrians were at one time more widely spread in this general region than during the late period in which Pausanias is writing, I deem it probable that Cyrtone was Locrian in its earlier history, at all events.

MOUNT CHLOMOS AND THE "LOCRIAN ROSE"

Mount Chlomos we have had occasion to mention in the previous section. It is the only real mountain in this section of the country, being 1081 m. in height, it has a very characteristic sharp point,¹ differing thus markedly from the great majority of mountains in Greece, and is a most conspicuous feature of the landscape of all northern Boeotia, Phocis, and more than half of East Locris. It is thus the more surprising that its ancient name is unknown. Leake keenly felt the difficulty,² and after a judicious discussion of the evidence concludes quite properly that this was not Mt. Cnemis (certainly nothing about the shape of Chlomos could well have suggested a "greave"), and is inclined to call it Mount Cyrtone, as though the mountain bore the same name as the town (see the preceding section). There is nothing, however, in the text of Pausanias (IX, 24, 4 f.) to suggest an identity of name: it is merely *ὄρους ὑψηλοῦ* and *τὸ ὄρος*. H. Kiepert (*F.O.A.* XV) tentatively suggested that it might be Mount Delos. This is known only from Plutarch, *Pelop.*, 16 (speaking of Tegyra): *Καὶ τὸ μὲν πλησίον ὄρος Δῆλος καλεῖται, καὶ πρὸς αὐτὸ καταλήγουσιν αἱ τοῦ Μέλανος διαχύσεις*. The mountain is to be located by two things: (1) It is near the temple of Apollo which was at Tegyra; (2) it was near the point at which the Melas disappears. As regards the first, now that Bulle has located the temple of Apollo upon the Magoula just west of Pyrgo, we have that point fixed.³ Similarly Philippson has pointed out that the Melas entered the *katavothra* at

¹ This characteristic shape it owes no doubt in part to the fact that the "plis de l'Oeta" at this point bends sharply to the east. See Ph. Negris, *Plissements et dislocations de l'écorce terrestre en Grèce*, Athens, 1901, p. 40. See figures 10 and 12. On the peculiar shape and the geological formation compare also Philippson, *Zeitschr. d. Ges. f. Erdkunde zu Berlin*, XX, 1890, p. 388; XXIX, 1894, pp. 8, 26, and especially A. Bittner, *op. cit.*, pp. 6 ff.

² *Op. cit.*, pp. 180 ff.

³ See N. Bulle, "Orchomenos," *Abh. d. Bayr. Akad.*, XXIV, 1909, pp. 122 ff.

Strovike.¹ These two points are in an air line nearly five miles apart, so that Plutarch is quite clearly speaking of the region in pretty sweeping, general terms. That being so, the only real mountain (*δρος*) in the vicinity is Chlomos, as the two Mavro Vounos, one between Aspledon and Abae, the other between Copae and Tegyra, are inconsiderable hills. R. Kiepert (*F.O.A.* XIV, text, p. 2) identifies Delos with the Mavro Vouno between Copae and Tegyra.² This hill, however, seems quite too in-

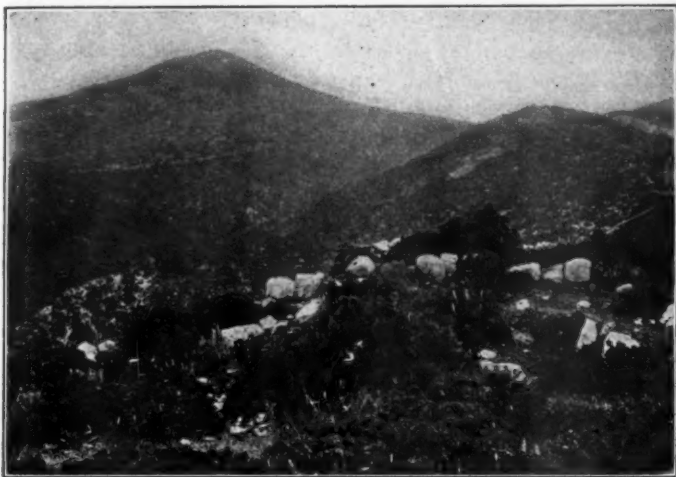


FIGURE 12.—MOUNT CHLOMOS, FROM THE EAST

¹ A. Philippson, *Zeitschr. d. Ges. f. Erdkunde zu Berlin*, XXIX, 1894, pp. 46 f. Forchhammer, *Hellenika*, p. 176, certainly is wrong in inferring from the words *πρὸς αὐτὸ καταλήγουσιν αἱ τοῦ Μέλαντος διαχύσεις*, that Mount Delos marked "die Grenze der Ueberschwemmung des Melas." The statement seems rather to mean that "the outpourings of the Melas cease at this point," i.e., that the river as such disappears in the general swamps. This may not, as a fact, be true of the Melas (cf. Frazer, *op. cit.*, p. 193), but it is what Plutarch actually believed; see his *Sulla*, 20. In that case this point is much more indefinite than the location of a *katavothra* into which the river was supposed to flow. As Bulle, Philippson, and R. Kiepert, however, seem to understand that a *katavothra* is meant, I have followed that line of the argument in the text, principally because it is not quite so favorable to my contention as the view just given, which I regard as the more probable, and I do not wish to overstate my case.

² R. Kiepert seems to be acting independently in this, but Curtius-Kaupert, in the map drawn after Lallier (*B.C.H.* XVI, 1892, pl. XII) and mentioned

significant to be called an *ὄρος* when real mountains in the vicinity are nameless. Forchhammer (*Hellenika*, p. 176) located Delos above one of the springs of the Melas between Orchomenus and Aspledon. As Tegyra is now known not to have been there, nothing more need be said of this attempt. Someone (Forchhammer, *op. cit.*, p. 177, is indefinite and I have not noted this elsewhere) had identified Delos with the hill upon which Pyrgos stands, but aside from other objections, notably its insignificant size, Plutarch says merely that Mount Delos was near the temple of Apollo, not that the temple was built upon it (*καὶ τὸ μὲν πλησίον ὄρος Δῆλος καλεῖται*). This objection also completely disposes of Bulle's identification of Delos with the Magoula just west of Pyrgos (*loc. cit.*), a low rocky hill about 300 m. \times 160 m. \times 25 m. (height!).¹ It seems that there is nothing to do but to revert to the idea of H. Kiepert and accept Delos as the ancient name of Chlomos. If *Δῆλος* be a genuine Greek word, no more appropriate term for precisely this astonishingly conspicuous mountain (considering its moderate height) could be given. It is true that Delos, the island, because of the Doric *Δᾶλος*, has generally, and no doubt rightly, been denied a Greek etymology (e.g. Fick, *Vorgr. Ortsnamen*, pp. 58 f., 120), but there is no certainty that mountain and island have etymologically the same name.

In this connection it is interesting to consider what relation Mount Delos had to the curious tradition of the birth of Apollo and Artemis near Tegyra. Gruppe² is undoubtedly right in above (p. 158 note 3), had already placed Delos at that point. Philippon, *Zeitschr. d. Ges. f. Erdkunde zu Berlin*, XXIX, 1894, map, and Frazer, *op. cit.*, do the same.

¹ To call a low rock less than 90 feet high an *ὄρος* seems quite impossible. The difficulty about the distance from the katavothra at Stroviki, Bulle rather lamely tries to explain away by remarking that the draining of the lake has changed conditions. But it has not changed the location of the katavothras surely. It is better to consider the term *πλησίον* as used broadly, for only in that way can one get a respectable mountain at all. Finally, had the Magoula been called Delos, its peculiar nature, originally a real island, no doubt, before any drainage of the lake had been attempted, no one would have thought of calling it anything but an "island" (its condition in historical times being an excellent explanation of the tradition regarding its final fixation), certainly never a "mountain." My view of the exact meaning of Plutarch would fit Bulle's argument admirably, for the Melas probably did enter swamps near here, but the other objections urged against it are conclusive.

² *Griech. Myth. u. Religionsgesch.*, p. 1257, 2. Elements of the Delphic myth also are interwoven.

regarding this as an adaptation (with modifications) of the Delian tradition, and not an original variation. If so, one naturally inquires, what might have led to the localization of the legend here, which necessitated the peculiar forms that the myth took. The cult of Apollo there in some form was doubtless ancient enough (Gruppe, *op. cit.*, p. 74, 13), but how could one have come to the idea of interpolating specific Delian elements? Certainly not from the original local names of the springs, for Φοῖνιξ and Ἐλαία are simply absurd as fountain names, while the palm does not grow in Boeotia. The proximity of Mount Ptoon, with the grotesque etiological etymology which the tradition assigns, would have been altogether too far-fetched. I venture to suggest that the original name of a mountain as "Delos" in the vicinity must have been the "efficient cause." Given an Apollo and a Delos, no matter if a mountain, and not an island, the rest might, with some ingenuity, follow. The existence, too, of genuine νῆσοι πλοάδες (*Theophr.*, *hist.*, *pl.* IV, 12, 4; Pliny, XVI, 168) in the swamps near by doubtless served to render the localization yet more plausible.

However, Chlomos may or may not have been Delos; its name, at all events, sheds some light upon an old literary allusion. In modern Greek χλωμός = "pale, fallow," and as Ulrichs (*op. cit.*, I, p. 193, and note) observed, this mountain receives its appellation because the herbs and bushes wither rapidly in summer, when the mountain, though well covered with undergrowth, has a singularly pallid look, as I also can bear witness, having been in sight of it a good deal of the time from July 11 to 16.¹ Now

¹ The pale color is noticeable in Figure 12. Much can be said for Ulrichs' suggestion that in the Homeric Hymn to Apollo, v. 223, where we have βῆς αὐ' ὄρος ἰσθεὺν χλωρόν, we should read Χλωρόν, and refer it to the modern Χλωμός (modern Greek having the doublet χλωμός in the restricted sense of "pale," beside χλωρός "green," while the old Greek used χλωρός for both ideas; see Du Cange, *s.v.* χλωρός. Of course χλωμός is not derived directly from χλωρός, but from χλόη, χλοανίς > χλωμός. See Foy, *Lautsystem der griech. Vulgärsprache*, Leipzig 1879, p. 44). The omission of the proper name of the mountain is most extraordinary here, and two such eminent critics as G. Hermann and Wilamowitz (*Isyllos von Epidauros*, p. 111) have refused to admit that the text as it now stands can be correct. To be sure, Messapius might more naturally be expected, as being nearer the Lelantian plain, and very close to the Euripus, but if Chlomos was actually meant, the selection of that mountain, at whose foot lay Tegyra, with the old Apollo-cult, would have occasioned no surprise, as it is no great distance away from the Euripus, and the step from the Lelantian plain is no longer than that from

the "Locrian rose," as a peculiarly shortlived variety of that proverbially frail flower, was a favorite comparison with erotic writers to illustrate the rapid fading of beauty (see Lycophron, *Alexandra*, 1429, scholia and paraphrasis; Pollux, 5, 102; Eumathius, 9, 15; Const. Manasses, 4, 76 and 8, 9). A spur of Chlomos, the high hill above Atalante, is now called "Rhodon," and I was told by the waiter in a *xenodocheion* (an illiterate fellow who could not possibly have heard of the literary reference) that roses are very abundant upon the mountain in May, but that they last only a few days.¹

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Iolcus to Cenaeum, and much shorter than that from Cenaeum to the Lelantian plain itself. The step back to Mycalessus would be somewhat strange, but it is quite certain that the author of this hymn really did not know the location of the sites he mentions as exactly as one can now trace them on a map. Great allowances must be made for poetical geography.

¹ The use of this figure, especially by Eumathius (9, 15), suggests strongly that its origin was in some maiden's lament over lost beauty, doubtless in some one of the notorious *Λοκρικὰ ῥήματα*. A suggestion of what such a song may have been like we can get from the fragment in Athenaeus (697 B), with which may now be compared the singular Alexandrian erotic fragment published by Grenfell (Oxford 1896; cf. Crusius, *Philol.*, LV, 1896, pp. 355 ff., and *Herondas*⁵, pp. 124 ff.). But a discussion of these matters must be reserved for another connection.

LATIN INSCRIPTIONS AT THE UNIVERSITY OF
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IN *Old Penn*, XIII (April, 1915), pp. 873 ff., I published nineteen inscriptions belonging to the collection of the Latin Department of the University of Pennsylvania; see *A.J.A.* XIX, p. 481. Among them was the one shown in the accompanying illustration, which I thought contained the abbreviation Ga. (or possibly Ca.) for Gaia, although I remarked that such an abbreviation is unknown except in a few Faliscan inscriptions (see Deecke, *Die*



FIGURE 1.—INSCRIPTION IN PHILADELPHIA

Falisker, Nos. 8.1, 8.2, 43.b.2), while a freedman without a cognomen is also very rare.

Professor Dessau has suggested that Ga is a cognomen and he is unquestionably right, since with that correction the wording of the inscription becomes perfectly normal: Gaius Pompeius Ga, the freedman of a woman. Pompeia Lais, freedwoman of Gaius (Pompeius, dedicated this) to her patron. The cognomen Ga, Gaa, or Gaha is found no less than seven times in the sixth volume of the *C.I.L.*, as Professor Dessau has informed me, and it occurs eight times in the tenth volume, once in the dative form Gae (X. 5473). It is also duly listed in the Forcellini-DeVit *Onomasticon*. Nevertheless the inscriptions in which it occurs, although numerous, are of little prominence and comparatively slight interest, and I had never met the name in the course of a somewhat extended reading.

Ga is certainly not a well known name. This, however, would offer little excuse for the error, which receives more justification from the very extraordinary arrangement of the inscription upon the stone. Professor Dessau suggests that the stonecutter forgot the cognomen and then (not having left room for it) added it at the beginning of the second line. If this were so, one would expect him to have separated Ga from the following Pompeia by at least a little space, especially since his peculiar arrangement of the name Pompeia Laus left him an abundance of room for that purpose. It seems more probable that he, too, mistook Ga for an abbreviation of the name Gaia, perhaps influenced by the parallelism of the preceding C. Pompeius. His arrangement of the rest of the inscription is still less explicable and I venture to suggest no reason for it.

Two other inscriptions of the collection, besides those mentioned in the A.J.A., perhaps deserve special notice: (1) *Plotius L.L. Acutus*, because the cognomen is incorrectly given as *Acuius* in *B. Com. Rom.* XXXIII (1905), p. 354, although the T is perfectly clear on the stone, as well as in a squeeze and a photograph; (2) *A. Tettius A. L. Malchio Teti A. L. Salvia*, because of the unusual order of the name of Aulus Tet(t)ius in the second part of the inscription; see Dessau, *B. Com. Rom.* 1913, p. 4 ff. and Oxé, *Rh. Mus.* 1904, p. 108.

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BABYLONIAN ORIGIN OF HERMES THE SNAKE-
GOD, AND OF THE CADUCEUS

I.

THE study I have for some time been making of Medusa,¹ which has shown her to have originally been an important figure in pre-Olympian Hellenic cosmogony and cult, a figure which was afterward absorbed in a subordinate rôle by the Olympian system, has led me, I believe, to solve also the problem of the origin and real character of Hermes and his *Kerykeion*.

Hermes was, like Medusa, a pre-Olympian. He also was admitted on sufferance into the new Olympian pantheon, curtailed of his real functions, and made to do service of less importance than when, as a subsidiary Chthonic god, he formed part of the organized cosmogony of the primitive matriarchal system.²

I expect to show that the prototype of Hermes was an Oriental deity of Babylonian extraction; whose character was that of a god of spring; whose function it was to preside over fertilization; whose position was not that of a primal deity, but that of agent and messenger of the Great Mother, in whose domain he brought life to light in the springtime of each year, and so became also associated with the spring sun.

This proto-Hermes was always a snake-god, and before the era of complete anthropomorphism he was thought of in snake form. But it is an essential element of his function that he was not a single snake—for the great single Earth Snake was the Mother Goddess—but the double snake, male and female, the most prolific form of copulation in the animal kingdom.

For this reason the emblem of the god was the *Kerykeion* or caduceus, a pair of snakes wound around a wand or sceptre. But before it became the god's emblem, the caduceus had been,

¹ *A.J.A.* XV, 1911, pp. 349 ff.; XIX, 1915, pp. 13 ff.

² I read a preliminary paper, in which I outlined my conclusion, before the American Philological Association and the Archaeological Institute at their annual meeting at Haverford, in December 1914.

in the pre-anthropomorphic era, the god himself; and continued to be so regarded long after the prevalence of anthropomorphism.¹ The Caduceus-god was, therefore, the predecessor of the Priapic herm-god. The two-sex snakes conveyed the same idea as the phallus. The phallic god appears to have been unknown to the early Oriental form of the cult and to have been introduced by those who mediated the Hermes cult to Greece.²

The subject must, then, be approached by way of its fundamental element, the *Kerykeion*; but, first of all it will clear the ground to epitomize the past and present attitude of scholarship toward both Hermes and the *Kerykeion*.

It is an interesting step in the right direction that the phallic and nature character of the primitive Hermes is by way of being more clearly recognized and that some value is given to the traces of his pre-Olympian origin in the literature of the late Roman period, which revived in philosophical form so many persistent primitive popular traditions. A typical judgment of this sort is that of Farnell³ in his elaborate study of the cult of Hermes. Farnell feels that while Hermes "appears to us as a Hellene of the Hellenes" he yet "may be a surviving figure of a pre-Hellenic religion." He favors the Pelasgic derivation of the Arcadian Hermes cult, which is the aboriginal source for Hellas, and in which the phallic nature is pronounced, with Pan as the son of Hermes. The attractive resemblance between Maia, the mother of Hermes, and Mâ, the Mother Goddess of Cappadocia and Bithynia, suggests the Anatolian derivation of Hermes. But, while Farnell favors an original non-Hellenic and phallic Hermes, he fails to correlate him correctly with the *Kerykeion*, for he believes it to be of purely Hellenic origin and character, without connection with the nature-Hermes, a simple implement evolved out of a shepherd's crook adopted by heralds as their staff.⁴

Modern German scholarship has not gone even as far as Farnell on the right road. Its most recent and authoritative verdict,

¹ Pre-anthropomorphism is hardly correct as a chronological statement; it is of course rather a matter of a state of mind than of a date.

² At the same time the phallic character was made evident by the ithyphallic figures supporting or flanking the caduceus on Babylonian cylinders, e.g., Ward, fig. 481, from a cylinder in the British Museum.

³ *The Cults of the Greek States*, Vol. V (Oxford, 1909), pp. 1 ff.

⁴ *Ibid.*, p. 20, where he remarks that there is no need to derive this simple implement, as some have done, from Phoenicia, or, as Sir William Ramsay derives it, from Phrygia.

that of Stein in the Pauly-Wissowa *Reallexicon*, is conservative, treating Hermes as a purely Hellenic creation, though granting that his original character was that of a god of fruitfulness in nature, in its three forms—human, animal and vegetable. He agrees with Farnell in regarding the male organ of generation as the primitive emblem of Hermes, and the *Kerykeion* as merely the herald's staff: "der Heroldstab in engerem Sinne."¹

The conventional view of the *Kerykeion* has been held, practically without change, ever since the time of K. O. Müller, and may be considered as expressed with the greatest detail and authority in Roscher.² The caduceus wand is held to be the shepherd's crook decorated in the course of time with the snakes and with ribbons. If this were so it would be a late adjunct to the paraphernalia of Hermes and quite unconnected with his early phallic and nature cult. Also, in this interpretation of Roscher, the divinatory, magical, lifegiving powers of the wand, so clearly to be traced in Greek literature and art, are made quite secondary

¹ Stein says in the beginning (p. 774): "Am tiefsten scheint seine Bedeutung als Gott der Fruchtbarkeit zu liegen. Im elischen Kyllene u. vielleicht auch auf dem arkadischen Gebirge gleichen Namens wurde er als Phallos dargestellt (Paus. VI, 26,5; Artemidor, I, 45; Lucian, *Supp. tr.* 42 u. 5)." The treatment of the caduceus in the part of the P. W. article devoted to the archaeological material is, however, extremely interesting and suggestive and will be quoted in a note to p. 178.

² Müller, in *Arch. der Kunst*, p. 504, stated that the caduceus was originally the olive-branch with the *orkhūnara* which were afterwards developed into serpents. The article in Roscher (p. 2365) is by Scherer, who says: "Als Symbol seiner Heroldswürde führte H. das sogenannte *κρηόκειον*, das ursprünglich gewiss die einfache Gestalt eines Hirtenstabes oder eines *σκήπτρον* hatte, wie es die homerischen Herolde führen (*Il.* H. 277, Diod. 5, 75), später aber in mannigfacher Weise verziert wurde (Preller, *Philol.* 1, 512 f. = *Ausgew. Aufs.* 147 ff.). Da solche Stäbe in der Regel von Gold oder doch mit Gold verziert waren, so erhielt H. davon schon in sehr alter Zeit das Epitheton *χρυσόραπτις* (*Od.* ε 87 u. 5.). Hie und da legte man diesem Stabe auch mantische (*Schol.* *Il.* ο 256) oder magische Kraft bei, indem man glaubte, dass der Gott mit demselben einschlafere oder wecke (*Il.* η 343. *Od.* ε 47, ω 2), oder die Seelen der Verstorbenen hinter sich her in die Unterwelt hinabziehe (*Od.* ω 5 f.; Verg. *Aen.* 4, 243; Hor. *Car.* 1, 10, 18), oder endlich Verwandlungen bewirke (Antonin. Liber. 10, etc.). Auf den Mythos, dass H. diesen Stab vom Apollon erhalten habe (*Hy. in Merc.* 529; *Schol.* *Il.* ζ 256) ist nach meiner Ansicht nichts zu geben, da er ihm schon als Götterherold ursprünglich eignen musste. [Ueber das *κρηόκειον* vgl. Böttiger, 'Über die vorgeblichen Schlangen am Mercurius-stabe,' *Amalthea* 1, p. 104–116; Preller, 'Der Hermesstab,' *Philologus* 1, p. 512–522; L. Müller, *Hermes-Stavens Oprindelse* (see *Arch. Anz.* 1866, p. 219–24).]"

to its heraldic function. In Figure 1, Hermes, represented as evoking souls, carries both kerykeion and rhabdos. The entire process of evolution of the wand is supposed to have taken place within the Hellenic sphere.



FIGURE 1.—HERMES, ON A JENA LEKYTHUS (Harrison, *Themis*, p. 295)

der entweder wie ein ganz einfacher Stab gezeichnet wird oder gewöhnlich an dem nicht gehaltenen Ende eine eigentümlich gespaltene und gewundene, verschiedentlich variierte Form aufweist, die von mächtig ausladenden hornartigen Spitzen allmählich das Aussehen einer 8-Zahl (mit dem oberen Zirkel geschlossen oder geöffnet, auch zweimal über sich selbst gestellt), annimmt—man fasse den Stab als Hirtenstab, Heroldstab oder (wahrscheinlicher) Zauberstab—oder endlich als eine Kombination dieser Elemente auf (den wahrscheinlich orientalischen Ursprung des Zwieselstabes hat man aus phönikischem, hettitischem oder mesopotamischen Kulturkreise ableiten wollen, vgl. L. Müller, *Gesellsch. d. Wiss.*, Kopenhagen, 1864, 171 ff. u. O. A. Hoffmann, *Hermes und Kerykeion*, 1890), Münsterberg, *Arch. Epig. Mühl.* XV, 141 ff. Jedenfalls existiert die Möglichkeit, dass der Künstler dem Stabe je nach der verschiedenen Situation verschiedentliche Bedeutung unterlegte. Er kann auch dem H. in die eine Hand das Kerykeion, in die andere einen gewöhnlichen Stab geben. Zuweilen ist das K. mit heiligen Wollenbinden geschmückt (um so den Sinn der Zauberknuten des Stabendes hervorzuheben?), auf der Memnonschale (Wien. Vorleg. 1890–1, Taf. 10. Head *H. N.* 81). Auch eine stilisierte Blume sieht man in seltenen Fällen in der Hand des Gottes . . . und das K. endet auch in Blütenspitzen bei Furtwängler *Vasenkatal.* Berl. 494.”

I have been unable to obtain a copy of a dissertation published in 1913 by R. Boetzkes, *Das Kerykeion* (Münster, 1913), to which my attention has been called by my friend W. Sherwood Fox.

This frivolous and futile theory, that the snakes of the Kerykeion were merely decorative and quite devoid of meaning, has never been seriously questioned, I believe,¹ except by Miss Harrison, who has come closer than any writer to sensing the

¹ In this connection it will be interesting to quote from ‘Hermes’ in the Pauly Wissowa, under ‘Hermes in der Kunst,’ p. 764: “In der Hand trägt der Gott gewöhnlich d. für ihn charakteristischen Stab (*βάβδος, κερύκειον*),

real nature both of Hermes and his emblem. Her study of Hellenic snake worship in *Themis* must be referred to by anyone wishing to understand how fundamental and persistent an aspect this was of real Greek religion. Miss Harrison has divined that Hermes was a snake god in his original form, but she was unable to find the proof of it, or to see the duality of the snake form as essential. It goes without saying that she was not cognizant of the Oriental connections.

Miss Harrison, in *Themis*, p. 266, conjectures that the archaic cult-image of Hermes in the old temple of Athena Polias on the Acropolis was "like the Hermes of Kyllene, an αἰθεῖον, possibly snake-shaped." On p. 294 she regards Hermes as a humanized form of the snake life-daimon, the Agathos Daimon. On p. 295 she goes so far as to say: "He [Hermes], a snake to begin with and carrying always the snake-staff, is the very *daimon* of reincarnation." Again, on p. 297 we read: "Hermes, as Agathos Daimon, was once merely a *phallos*; that he was also once merely a snake, is, I think, a safe conjecture. But it is merely a conjecture: I can point to no actual monument where Hermes is figured as a snake." Of course this was inevitable, as Hermes was never a single snake: only a double two-sexed snake.

As first planned, the present paper was to have presented in the first place the Greco-Roman material; then the Etruscan; then the Hittite-Syrian and finally the Babylonian. The advantage of this plan was that it led to the Oriental origin by stages so gradual as to overcome the scepticism that seems to envelop many minds whenever the Oriental origin of anything Hellenic is asserted. I shall, however, adopt the simpler plan of beginning with the earliest representations in graphic art of the *Kerykeion* (which I shall henceforth call "caduceus") and the caduceus-god, and shall not introduce the Hermes question *per se* until it forces itself into the arena.

I. THE BABYLONIAN AND HITTITE CADUCEUS

It is to the acumen of Dr. William Hayes Ward¹ that we owe the discovery of the presence of the caduceus on Babylonian cylinders of the ancient empire and other cylinders of Western Asia.

¹ Ward (William Hayes), *The Seal cylinders of Western Asia*, Washington, 1910 (The Carnegie Institution). Nearly all my illustrations are taken from this work.

They place the origin of the emblem at least as early as the millennium between 3000 and 4000 B.C. His demonstration was decisive, even though he might have increased its value by drawing more detailed mythological conclusions. It was natural that he should not in such a work concern himself with its bearing on the origin of Hermes. Dr. Ward summarizes his evidence under the heading *The Caduceus*, in his list of emblems of deities to be found on the cylinders (p. 408): "This important emblem, called a candelabrum by Ménant, is not infrequent on Babylonian cylinders, especially of the Middle Empire. It does not appear in the Assyrian or Syro-Hittite figures. It consists of two serpents rising from a vertical stem, with imperfect bodies and heads thrown outward. The neck is thickened like that of the Egyptian asp. Between the two serpents is often a vase . . . but this is not always clear nor always present . . . The object . . . may be pointed, to be set up



FIGURE 2.—WARD, p. 408

in the ground. Its serpentine character is discovered by comparing it with the single serpent as in Fig. 427 or in Fig. 31 [my Fig. 27], where the god carries the serpent as a rod over his shoulder. . . . This emblem is held in the hand of Ishtar . . . Doubtless this caduceus, which may be the source of the Greek caduceus, was originally conceived of as a weapon."

In Figure 2 are the three types of caduceus on Babylonian cylinders selected by Dr. Ward to illustrate the above remarks. In Figure 27 is the single serpent used as a divine emblem held by a god over his shoulder; and in Figs. 6, 24, 26, 31, 32, 33, 36 held with the head down as an emblem which is probably the prototype of the *harpê*, for it practically was given the *harpê* form in Assyrian art (see Fig. 37).

In the following study I do not accept two of Dr. Ward's statements in the passage just quoted. The first is that the caduceus does not appear either in Assyrian or in Syro-Hittite cylinders. While this is true of Assyrian cylinders, where the Tree of Life seems to have replaced the caduceus, it does appear in a considerable number of the Syro-Hittite cylinders illustrated by Dr. Ward himself, and in the descriptive text he himself calls them caducei. So we do not really disagree. His statement was a mere inadvertance, which he would be the first to recognize.

The second point is his suggestion that the Babylonian caduceus was originally a weapon. This idea may be due to the emphasis placed by Dr. Ward on the warlike character of the goddess Ishtar. There is, however, complete agreement among scholars that Ishtar was primarily a nature goddess and that her warlike aspect was a later secondary evolution. Dr. Ward also sees a weapon in the bulbs which I shall try to prove fruits of the Tree of Life.

I shall include the other works beside cylinders on which the caduceus is found, such as the Gudea vase and the limestone reliefs.

The Caduceus and the God Ningishzida.—There are two main groups of cylinders and reliefs on which we find a caduceus. In one group it is an independent emblem; in the other group it is held by a god. In the first case it is of large size, usually as large as the human or divine figures of the same cylinder; in the second case it is usually quite small, like a sceptre or wand.

The former group must be studied first. It falls into two subdivisions: (1) that in which it is plainly an object of worship, being flanked or held by genii, or demi-gods; (2) that in which it stands alone, though associated with correlated figures or emblems.

The first illustration (Fig. 3) is the famous vase of green steatite found at Telloh (Lagash) and now in the Louvre.¹ It is a libation vase, dedicated, according to the archaic inscription that crosses its figures, to the god Ningishzida by Gudea, *patesi* or ruler of the city and state of Lagash. The chief deity of Lagash was Nin-girsu, a solar deity. This is made plain by



FIGURE 3.—GUDEA'S LIBATION VASE
(= Ward 368c)

¹ De Sarzec, *Découvertes en Chaldée* (Paris, 1883), pl. 44, Fig. 2, pp. 234-236; Heuzey, *Coll. d'antiquités chaldéennes* (Paris, 1902), pp. 280-284; Jastrow, *Aspects of Religious Belief in Babylonia and Assyria*, pl. 4.

numerous monuments and inscriptions. Ningishzida was a subordinate deity, the special patron of Gudea, whom he is represented in several works as presenting to the chief deity, Nin-girsu, very much as in works of Christian art an emperor, king, or bishop is being presented to Christ by Saint Peter. The dedicatory inscription in itself would tend to show that this patron of Gudea is portrayed on the vase. The subject is a mystic adoration scene. The centre is occupied by a large caduceus which stands upright and unsupported. It is formed of a wooden staff which we may imagine as pointed and stuck into the ground. The artist has carefully indicated the bark of the tree. The two snakes face each other with open mouths at the top of the staff. At its base their tails interlace. Their scales and heads are well marked. This is the god Ningishzida. He is being adored by two composite genii, standing at attention and holding each a long ritual lance-like or sword-like staff with a handle which they do not grasp, and which is exactly like one held by a figure like that of the hero Gilgamesh when in attendance on some deity.¹ The dissection of these hybrid genii would indicate that they are a composite of the different animals and birds currently used as divine symbols and attendants, both solar and chthonic: the scorpion, the serpent, the eagle and the lion, though the serpent dominates in head and body.² The dedicatory inscription to the god is interrupted by their bodies.

The objection to considering the caduceus to be the god himself instead of merely his emblem can be set aside for various reasons. The first is derived from the name of the god. *Nin-gish-zida* is translated as meaning "God of the Right hand Sceptre" or more exactly "Right-hand Sceptre God."³ This describes the caduceus-god perfectly. He is a subordinate or ancillary deity; an instrument in the service of a principal deity, taking the form of a sceptre held in this deity's right hand. We shall see later that the caduceus is held in the right hand either of the Mother Goddess (Ishtar) or, more rarely, of the Sun-god (Shamash).

It would be interesting to determine the date of this libation vase. If it is not possible as yet with exactness, it may be said that while in one book Dr. Jastrow dates its dedicator, King

¹ Ward, p. 378, figs. 648, 205, 289, 284; cf. 285, 286.

² The head and trunk are serpentine; the claws of the hind-feet, beside the wings, are the eagle's; the tail is the scorpion's; the fore-feet are the lion's.

³ In the Adapa legend it is abbreviated to Gishzida.

Gudea, *ca.* 2350 B.C., in another he places him a *thousand* years earlier in *ca.* 3300.¹ The consensus of opinion places Gudea between 3000 and 4000 B.C.

Before proceeding further, I must reproduce all Gudea's known representations of this caduceus-god Ningishzida and a few others related to them because they show that in his time, which we may roughly reckon as *ca.* 3500 B.C., this god's personality had already been evolved from a pre-anthropomorphic to an anthropomorphic form through a series of stages the study of which provides, I believe, the first instance of such an evolution proved by monuments. It is an evolution that has been supposed, that has been preached, but that has not thus far been proved by monuments. The fact that under Gudea both the earlier animal and the later human form were used is probably due to a conservatism that maintained the archaic and traditional pre-anthropomorphism by the side of the form that appealed to the more developed religious ideas.

The theme on the seal cylinder of King Gudea (Ward, Fig. 368a), as it can be studied in an impression on a tablet now in the Louvre, is very clear in the rôle it assigns to



FIGURE 4—(= Ward 368a)

Ningishzida (Fig. 4). The supreme god—Nin-girsu, Ea or Shamash—is seated on a throne. From his shoulders flow two streams of water into vases standing on the ground. It is from him that the element of moisture in the earth is derived. In his right hand he is holding out a vase overflowing with two streams, and crowned by the triple flower emblem of fertility, to an approaching secondary deity, identifiable by the two snakes that project, one from behind each shoulder. This god is receiving the vase in his left hand while with his right he is leading and presenting to the principal god the King, Gudea. Behind Gudea is a goddess, the consort of the principal god, and behind her the winged and horned lion, a solar emblem. The introducing god is identified as Ningishzida not only by the snakes, but because Gudea in his

¹ Jastrow, *Aspects of Religious Belief*, p. 14, 426, for the date *ca.* 2350; and his *Die Religion Babylonians und Assyriens*, I, 36 for the date *ca.* 3300.

inscriptions calls him "my god" and says that "he takes me by the hand and leads me into the presence of [name of god]."¹

The scene shows Ningishzida mediating to the Kingdom of Gudea the fertilizing waters that are the gift of Ea, or Shamash or whoever is the main deity. A similar scene is given on a fragmentary relief of Gudea in which the god is mostly missing, but Ningishzida, with his shoulders sprouting serpents, is leading the King (Fig. 5) whom he grasps by the hand. This single figure is given enlarged in Figure 7a. He is preceded by another introducing deity with a long pendant staff. This relief is on a limestone panel in the Berlin Museum,² which is mutilated on the right side. It is possible to make out a stream of water;



FIGURE 5.—LIMESTONE TABLET OF GUDEA (=Ward 368d)

part of the throne of the god; the head of a lion beside the throne, and a bearded attendant behind it. In one of Gudea's inscriptions,³ quoted by Dr. Ward, it is said of him that as he approached his supreme god Nin-girsu⁴ in his temple: "the god Lugal-Kurdub went before him, the god Gal-alim followed him; Ningishzida, his god, held him by the hand." There is no doubt, then, that the god with a serpent sprouting from each shoulder who grasps Gudea's hand in the tablet and on the seal is the god Ningishzida. Neither can it be

doubted that it is Ningishzida who is represented by the caduceus on Gudea's libation vase. Now Dr. Ward (pp. 128—

¹ Ward, *The Seal Cylinders*, p. 127-128, 215, 376, Heuzey, *Sceau de Goudéa*, in *Rev. d'Assyriologie*, v. 135; VI, 95. For the inscriptions of Gudea see also, De Sarzec, *Découvertes*; Thureau-Dangin, *Sumérisc-Akkadische Königsinschriften*; Jastrow, *Die Religion B. u. A. I.*, p. 79, 92, 93, 395; II, 955.

² King, *History of Sumer and Akkad*, Fig. 12, p. 47; Meyer (Ed.), *Sumerier u. Semiten in Babylonien*, pl. VII; Ward, Fig. 368d.

³ Ward, *op. cit.*, p. 128; Gudea's Cylinder A col. 28, 14-17 in De Sarzec, *Déc. Thureau-Dangin, op. cit.*, etc.

⁴ It seems probable that the principal god here is not Ea or Shamash, but Ningirsu, because in Gudea's hymn (Jastrow, *Die Religion etc.*, I, 395) to Ningirsu the god is said to be a mighty lion and to rule the deep, and in his dream (Jastrow II, 955) he sees two lions flanking the god's throne, just as in the relief.

130) has very cleverly seen the connection with two cylinders which he reproduces, without, however, pointing out that they represent two successive stages in the evolution from the serpent-pair to the man-snake-pair.

In the first cylinder, now in the J. P. Morgan library in New York (Ward, Fig. 368b), given in Figure 6, with the main figure enlarged in Figure 7a, we are presented with a Lazarus-like human figure, helplessly wound up in the coils of the two serpents and perhaps the most archaic form of the man-god, that which is the nearest anthropomorphic approach to the original plain snake-spirit. On the cylinder is a line of deities. On the extreme left is Ningishzida in the form of this stiff, slender image, front face, resting not on human feet but on the tails of two serpents whose



FIGURE 6.—(= Ward 368b)



FIGURE 7.—(a) and (b) =
Ward p. 376

coils are wound tightly about the body in winding spirals, with heads that project from behind the shoulders on either side in exactly the same way as in the Ningishzida of Figures 4 and 5. The god has his arms close to his body with hands folded on his breast. It is like a primitive *xoanon*, with nothing to indicate the usual drapery or feet back of the serpent folds, only a cubiform sheath. The quasi-human figure simply takes the place of the wand of the vase of Gudea in the caduceus composition. The tail ends seem bent over to form a sort of tripod base; or else the base is an independent design to support the image. These are the two forms of the god as an object of worship. As a god in action, however, his limbs would have to be freed from the coils and only the serpent heads and necks would appear, growing from his shoulders. Though this *xoanon* figure is, so far as I am aware, unique, the idea must have been fairly common, for it is

reproduced in Hellenistic and Roman times in the Persian Mithraic iconography of the supreme god Zervane, the god of fire and heat, whose figure is encircled by a coiled serpent. Next to the god Ningishzida on the cylinder is a figure of the nude goddess of exactly corresponding character: hieratic, immobile, front-faced, with hands pressed to her breasts. She is the fruitful principle of the earth mother. Her name is uncertain. She is called Belit by Menant, Zarpanit by others.¹ In the cylinder (Fig. 35) on p. 202, she is placed beneath the caduceus, so that the juxtaposition is significant and intentional. She may be called the fecundity element in the all-mother Ishtar, as Ningishzida is the fecundating element in the spring sun. A fragmentary cuneiform text says of the goddess Belit-ili (?) that her breast is filled with milk and that the lower part of her body is that of a serpent.



FIGURE 8.—(= Ward 368b)

The same text speaks of the god Ea as having a serpent's head, and though this does not appear in any known monuments it is interesting as emphasizing the Babylonian connection between moisture and the serpent.²

The second cylinder (Ward, 368b), also in the Morgan collection, illustrates the succeeding stage (Fig. 8). Ningishzida stands facing the spectator in the same stiff attitude as of an image, not a living person. But the two serpents are uncoiled, the human body is made perfectly human by the addition of feet on which it is firmly planted, and the body from the waist down is expanded to normal width with a roughly flounced robe. The long snakes are held in each hand above the middle, hanging almost straight but so as to form the outline of the god below. They cross just above the waist so that their heads flank the

¹ Beyond "Belit" is the worshipper and further on a deity, who must be thought of as standing in front of Ningishzida.

² Ward, p. 131; Bezold in *Zeit. f. Assyriol.*, IX, p. 116. The cylinders which represent a deity that is human above the waist and is in the form of the coils of a single snake below the waist, like the Hellenic Cecrops, make this deity always male and bearded: Ward, Figs. 362, 363, 364, 365, 366, 367. The only unbearded example is Fig. 368. In Fig. 367 the god has Sun-rays on his shoulders.

god's face quite closely.¹ The transformation to an anthropomorphic god is here almost complete: complete except for two facts, that the god has not yet been fused with his life-source, the two snakes, and that, therefore, he cannot yet move and act. But this last step was taken in the creation of the type in Figures 4 and 5, where the god lives and moves in his human form.

It is important in this cylinder to study the other figures and emblems, because they will be found to belong entirely to the class of life-producers; and to give, for this reason, the strongest confirmation of my interpretation of the caduceus-god. We may, in the first place, eliminate the figure on the extreme left. He is merely the worshipper. Between him and Ningishzida is the orb of the sun inside the crescent moon, below them the seven circles of the Pleiades, and at the bottom the Egyptian ankh or symbol of life. On the other side of Ningishzida is a group which Dr. Ward has refrained from describing, though it is not only unique but of extraordinary value. It seems to represent the original *connubium* of the god and the goddess. The nude goddess (Zirpanit ?), standing as usual in front view, with drapery withdrawn indicated by a double base line and single side lines. Her left arm is extended to clasp the shoulder or neck of the god, who is advancing toward her with his right arm grasping her under the arm and his left hand extended to touch her drapery. Above them is the star representing either the Sun or the planet Ishtar. As a frame beyond is the Tree of Life surmounted by three animals like rabbits. This *connubium* of the male and female principles at the beginning of the evolution of the universe is described in the remarkable cosmological tablet recently deciphered by Dr. Langdon, which has also been studied by Dr.

¹ In the very archaic and crude cylinder, Ward 120, is a front-faced figure holding out a long erect serpent in each hand, away from his body, isometrically. In Ward 139a, they flank the nude figure of a god with a club, but stand erect without being held by him. The god is solar. In Figure 9—see the next note—the two serpents are held in one hand. In Figure 38 is a similar use of the two snakes. It would be beside the mark to comment on the various forms of the single serpent on the cylinders, as in Ward 923. I will merely say that perhaps the single serpent explains the two staffs held by the genii in the Gudea vase: see Menant in *Cat. de la Coll. De Clercq*, pl. XV, 131, where a "Gilgamesh" stands behind the Moon god holding a long stiff serpent with arched neck as a staff, while in other cylinders the staff he holds is exactly like those of the Gudea genii: see p. 182 and note.

Jastrow.¹ It is the original act of which one may say that the caduceus-god is the propagator throughout the universe in the various forms of life. I cannot lay too much emphasis on the interest of this scene. The presence of the *ankh* and the Tree of Life is additional evidence in favor of the interpretation I am giving not only of this scene but of the whole caduceus problem.²

The myth is referred to by Jastrow (*Aspects*, etc., p. 130) in explaining the evolution of the idea of the interaction of sun and earth. "A similar deity [*i. e.* to the goddess Ishtar], symbolizing the earth as the source of vegetation—a womb wherein seed is laid—must have been worshipped in other centres, where the sun-cult prevailed. . . . The consort of the old solar deity Ninib represents this great female principle. Their union finds a striking expression in a myth which represents the pair, Ninib and Gula (or Bau), celebrating a formal marriage ceremony on the New Year's day (coincident with the vernal equinox) receiving wedding presents, and



FIGURE 9.—(= Ward, 823)

ushered into the bridal chamber with all the formalities incident to the marriage rite.

. . . . When, therefore, the Psalmist describes the sun (xix, 5) as 'Coming like a bridegroom from his bridal

chamber,' he is using a metaphor derived from the old myth of the marriage of the Sun with the Earth in the happy springtime of nature's awakening." A Phoenician version of the divine marriage will be discussed on p. 209; see Figure 41.

¹ Among the Papers read at the meeting of the American Philological Association and Soc. of Biblical Exegesis at Columbia University on Dec. 28, 1915. Langdon, *Sumerian Epic of Paradise* (Bull. Mus. of U. of Pa. Babyl. Sect. X, 1), and N. Y. *Nation* of Nov. 18, 1915.

The marriage of the god and the goddess was commemorated by a festival. Gudea relates how he consecrates on this occasion marriage gifts in the temples. The festival was the spring festival called Zagnuku; Ward, p. 136.

² There is a peculiar Hittite cylinder (Ward 823), where a figure approaching the main deity holds by the neck in his right hand two serpents whose coils trail on the ground (Fig. 9). That this figure is a deity, though a subordinate one, is shown by the small size of the only human figure with hand raising a libation cup behind a sphinx or man-faced lion. Above him is the divine Bull with the sprig of the Tree of Life behind him and at the left end Gilgamesh kneeling and swinging the solar lion above his head. Whether the subordinate snake-swinging god is Ningishzida can be only a matter of opinion.

Having shown the evolutions of the forms of the caduceus-god we will now examine the representations of the caduceus as an independent emblem on the cylinders, but before doing so a short digression on the personality of Ningishzida as shown by Babylonian literary records is obviously necessary.

The only Babylonian ruler who mentions Ningishzida is the above-mentioned Gudea; and he, while naming this god as his patron, enumerates him at the end of his list of eighteen gods adored at Lagash (Shirpurla). Gudea has a dream which he asks the goddess Ninâ to interpret. She tells him that he has seen the supreme god, of colossal size, Ningirsu, crowned and with the sacred eagle, Im-gig, in his hand, the storm-wind at his feet and a lion crouching on either side: also a woman with a tablet and a man marking the plan of a temple on another tablet, showing that he should build a temple to Ningirsu. Then came a figure representing the rising sun, which the goddess identifies—after naming the others—as Ningishzida, saying: "The Sun which lifted itself up from the earth before thee, is thy god Ningishzida. Like the Sun he goes forth from the earth."¹ In another passage Ningishzida is described as leading Gudea forth to battle and as his king. A separate temple was dedicated to his worship by Gudea.

It would seem as if this god's worship was largely local and disappeared with the advent of the official pantheon established by the priesthood of Babylon under the dynasty of Hammurabi (ca. 2000 B.C.). The other records of his cult are from two sources, both of them archaic and pre-Hammurabi: the omen and incantation tablets and the legend of Adapa. In the incantation texts he is called "Throne-bearer of the Earth." His connection with the serpent is attested in a birth-omen given by Jastrow which says: "If a woman gives birth to a child with a serpent's head, it is an omen of Ningishzida, who will devastate the land; an omen of Gilgamesh, ruler of the Earth." In another text Ningishzida sends fever through the land. He is said also to carry an axe as his symbol. In some magical texts where Ningishzida is among the minor solar deities invoked, it is not as a male but as a female deity and as the wife or consort of the sun.

¹Gudea, Cylinder A. 5; 19-20, in De Sarzec, *Découvertes*. For Ningishzida consult the index in Jastrow's three works: *The Religion of B. and A.*; *Die Religion B. u. A.*; and *Aspects of Rel. Bel.*, including the sources and authors there quoted.

gods Nusku or Ninib or even of Gibil the primitive Fire-god. In Jastrow's opinion Ningishzida was one of the insignificant secondary deities that tended to disappear and to be absorbed in the more powerful deities. In this case the absorber would be Ninib. This was natural because Ninib is called "the first-born of Ea" and also as the rising sun or the spring sun, the offspring of the Earth (or "E Kur"), because he ascended from below the earth surface. The association with Nusku, on the other hand, is due to Nusku's character as a messenger of Anu, the supreme god of heaven, and of all the gods. In this sense, perhaps, Ningishzida is called in one of Gudea's texts the "Son" of Anu (Cyl. B 23, 5) and bracketed with Bau, the daughter of Anu (Cyl. E 8, 12-13), who is the consort of Nin-girsu, the supreme god of Lagash, and is the Mother Goddess who gives birth to mankind. It is not improbable that in the *connubium* scene described on p. 187 the union is that of Nin-girsu and Bau. In Gudea's text quoted above, Ningishzida's mother is called Nin-Sun (Cyl. B, 23, 5-6).

In one of the incantation series, that of the "Evil demons," the *Utukki limnuti*, the god Ningishzida is called "the Herald of the Earth."¹ All these are disconnected allusions.

The only narrative text in which our god appears is the myth called the Adapa legend, in which Jastrow² sees a composite story made up (1) of a lament for the disappearance from earth of the two gods of vegetation, Tammuz and Ningishzida, who represent the sun-god of the spring and bring vegetation but are carried away from the Earth with the waning of summer: (2) of an adventure of a certain hero or god Adapa who is obliged to appear before the Supreme God of heaven, Anu, to answer the charge of having broken the wings of the south wind, which was an evil storm wind.³ The god of the deep, Ea, father or protector of Adapa, advises Adapa to seek the intervention of two gods, Tammuz and [Nin] Gishzida, the guardians of the gates of heaven. Adapa is to appear at the gate in mourning garb and

¹ Jastrow, *Die Religion* etc., I, 354.

² Jastrow, *The Religion*, pp. 544 ff.; text and translation in Winckler and Abel, *Thontafelfund von El-Amarna*, Vol. III; Harper, *Die Babylonischen Legenden von Etana, Zu, Adapa und Dibarra* (*Beitr. z. Assyriol.*, II).

³ This would seem to indicate that it was a fight of a solar hero against the storms of winter, in preparation for the return of spring, which would mean the return of Tammuz and Ningishzida to earth. This makes a logical nexus between the two parts of the story.

when asked the reason of his mourning is to answer: "Two gods have disappeared from our earth, therefore do I appear thus" and when he is asked who these two gods are he is to point out Tammuz and Ningishzida who will then intercede for him and take him to Anu. Now, in the early Babylonian calendar, the fourth month, or first month of spring, was sacred to Tammuz and the fifth month or second spring month to Ningishzida, while the sixth or first summer month was dedicated to the Mother Goddess Ishtar. The association of the two young gods of Spring is shown even in Gudea's list where Tammuz, in the form Dumuzi (or more fully Dumu-zi-abzu "Child of the deep"), is mentioned side by side with Ningishzida. Both were personifications of the springtime sun, coming out of the earth to put to flight the cold of winter and bring back life to the world. Both leave the earth as the summer closes and life wanes and their departure to the underworld, or to the gates of heaven, is mourned. They are like twin gods, but this twinship or similarity of function seems to have resulted in a confusion of sex. Sometimes Tammuz is the husband and Ningishzida the wife, and sometimes Ningishzida the husband and Tammuz the wife. Sometimes both are male, as when they are represented as the gate-keepers of the sun on the cylinders (*e. g.* Ward, Figs. 244 ff., esp. 269). In course of time Ningishzida fades away and only the earlier of the two spring gods, Tammuz, survives. The mourning is for Tammuz alone. The Mother Goddess Ishtar mourns for her lost lover Tammuz and seeks him in the regions below the earth, where he lies hidden in the winter time, seeking to bring him back in the spring to the waiting world so that by his means, she, the Great Mother, can bring life back again to all nature. Tammuz alone, therefore, became the prototype of Adonis, Attis and the rest of the lovers, emissaries and instruments of the Great Mother.¹

But before this elimination of Ningishzida, we can see in various early Babylonian cylinders and other works, representations of the twin youthful Sun-gods as the guardians of the gates of the sun, as opening the gates for the Sun-god to come through in the spring morning.

We can understand, now, why the incantation texts call

¹ For the Legend of the Descent of Ishtar consult Jastrow's three works: Jensen, *Keilinschriftliche Bibliothek*, VI, I, 80-91; Ungnad, in Gressmann's *Altoriental. Texte u. Bilder*, II, pp. 65-69.

Ningishzida the "Herald of the Earth," as he is the messenger of the Earth Mother, and also why he is called the throne-bearer of the earth, and the young Sun lifting himself up from the earth. We can also understand his hermaphroditic character, sometimes spoken of as male and sometimes as female, as soon as we realize that the two snakes of the caduceus are one male and the other female—a fact that will be discussed at some length toward the close, as well as in connection with the Taragona tablet.

We now pass to the representations of the independent caduceus as an object of worship or a symbol.

The Independent Caduceus.—From the Gudea group and the correlated representations of Ningishzida it has become evident that the caduceus in itself was a god, and not merely an emblem, in very early Babylonian history. A study of the cylinders shows quite a number in which this independent caduceus appears as an object of worship, sometimes standing alone and sometimes flanked by supporting or attendant figures.

In some cases the snakes seem to grow out of the top of the wand and this seems undoubtedly a later form, related to the Greek caduceus, as compared to the more numerous and early forms in which the snakes' coils have not yet been eliminated but are wound about the whole length of the wand. When the evident connection between the coupled snakes and the Tree of Life is considered and the substitution of the tree for the caduceus by Assyrian art, one is driven to the conclusion that the wood of the wand, so carefully detailed on the Gudea vase, is the trunk of the Tree of Life. That the type with the snakes sprouting from the end of the wand is later, is confirmed by the analogy of the evolution of the anthropomorphic form of Ningishzida, from the figure encased in the coils to the figure with no coils but with the snake-tops sprouting from its shoulders.

In Ward 477 (Fig. 10) is a large caduceus, with central vase and coils wound tightly about the long staff. A hero of the Gilgamesh type stands beside it. The two main figures are of a god and goddess with a curious squatting figure between them, that seems to suggest a veiled form of the divine *connubium*. A similar crouching figure occurs in connection with the caduceus in Ward 424 (Fig. 11), where the nude goddess appears, and in Ward 428, described on p. 196 in connection also with a divine pair. The phallic character of the caduceus is emphasized in Ward

481 (Fig. 12) where a caduceus of the vase type is held up by two ithyphallic genii. An extremely schematic form is shown in Ward 335 (Fig. 13) where the caduceus must be imagined as



FIGURE 10.—(= Ward 477)

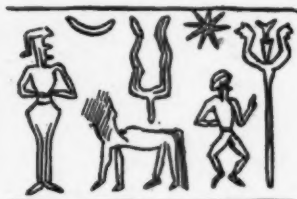


FIGURE 11.—(= Ward 424)

erect behind the seated god, instead of at the opposite end, as in the drawing. The connection with the crescent moon which we find here is emphasized in the crude cylinder Ward 1305^a, where the caduceus shows the pointed end which all undoubtedly had, but which in other cases is driven into the ground (Fig. 14). In another carelessly tooled cylinder, Ward 237, there is a unique association of the colossal caduceus with two bulls backing up against it with fore-legs raised (Fig. 15). This may be compared to a cylinder in Kings' *History of Sumer and Akkad*, pl. opp. p. 76 with two bulls flanking the Tree of Life, and held by Gilgamesh and Heabani; and with Ward 200 where the rampant bulls alone flank the tree. The connection of the bull with fertility is well-known.



FIGURE 12.—(= Ward 481)



FIGURE 13.—(= Ward 335)

These are all Babylonian works. Among Syro-Hittite cylinders we find in Ward 830 an echo of the Gudea vase (Fig. 16). Two human genii are here adoring a schematic caduceus. In Ward 1160, a cylinder found in Cyprus (Fig. 17), is an interesting combination of both Babylonian and Hittite characteristics. The hero Heabani has the nude goddess on one side and the caduceus on the other.

The Caduceus in the hand of a Goddess.—Far more numerous are the cylinders where the caduceus is held in the hand of a deity. Evidently Ningishzida, as a messenger, a mediating and



FIGURE 14.—(= Ward 1305a)



FIGURE 15.—(= Ward 237)

secondary god, and as an instrument in the right hand of a primary god, would indicate some important activity of this god. As both chthonic and solar he would naturally express the effect of solar heat on the moist earth in producing new life in the



FIGURE 16.—(= Ward 830)

spring. Since in Oriental thought the moist earth was primary and the solar heat secondary, since the Sun-god was the son of the Great Mother and rose into being out of the earthly waters, we should expect that a Right-

hand Sceptre-god would be placed mainly in the right hand of the Mother Goddess and only in a secondary way in the hand of a sun-god.

This we find actually to have been the case. The caduceus is the common emblem placed in the hand of the Babylonian Mother Goddess, whom we shall call Ishtar, when she is represented as standing. There is no known case of her having it when she is seated. Why this difference exists can only be conjectured. I would suggest that possibly as a *seated* deity represents a *passive* condition, receptive of homage, etc., and a *standing* deity an *active* or aggressive condition, and as the giving of life to nature in



FIGURE 17.—(= Ward 1160)

the spring is an aggressive act, this might lie at the basis of the difference.

But there was still another reason. The single snake, the great earth snake was the primal embodiment of the Mother Goddess as the source of life. This was probably due to its fecundity, love of moisture and its response to the spring heat—characteristics that made it the emblem not only of life but of resurrection.

There are certain passages in the divination texts relating to snakes which show how closely the Babylonians associated them with life and with wealth. The following are taken from Dr. Jastrow's work:¹

"If a snake crawls up a man's foot it means a long life. That man will become rich and will cry out: 'Where shall I house my corn? Where shall I store my silver?'"

"If a snake falls upon a little child and frightens it, that child shall live under the protection of God.

"If a snake lies down on a little child, so shall it, whether it be male or female, obtain renown and wealth, or its father and mother will obtain renown and wealth.

"If a queen bears a snake the king will be strengthened."

As Dr. Jastrow says: "In the Semitic languages the ground-stem underlying the word for *snake* is identical with that of the word meaning *life* and a similar unity of concept between snake and life appear to lie at the base of the widespread belief among Indo-germanic races that snakes are the embodiment of dead ancestors."

In other words we must realize that in practically all ancient thought the snake was the typical life-spirit or *daimon*. That it was passed on to the Assyrians is shown, for example, in an apparently insignificant detail in the notable Assyrian relief of Bel fighting the Dragon, found in the palace of Assurnazirpal at Nineveh. In drawing the dragon the artist has made his phallus in the form of a serpent, so clinching the fact that the male serpent stood for the organ of generation in the ancient Oriental mind. This helps, later on, in the case of the Hellenic Hermes to span the distance between his two emblems—snakes and phallus.²

The lion, and the fruit or flower of the Tree of Life were, besides the single snake, the principal emblems of the Mother Goddess.

¹ *Die Religion*, II, 776 ff., 782.

² Layard, *Nineveh*, II, pl. 5.

This was an idea common not only to Babylonian, Assyrian, and Hittite art but to Cretan, Aegean, Mycenaean, and even developed Hellenic art. So this need not detain us.

Only this much may be done in this connection: (1) to clear up a misunderstanding which has prevented our identifying the fruit of the Tree of Life in connection with Ishtar; (2) to show



FIGURE 18.—(= Ward 428)



FIGURE 19.—(= Ward 1278)

how the lion was not merely the foot-stool of Ishtar but part of her nature, and (3) to demonstrate that the single serpent as well as the caduceus was currently used both as an independent emblem and as an emblem held by a deity, and that this single serpent must not be confused with the caduceus. In Ward 428 (Fig. 18) on the extreme left is a large puff adder of the usual upright



FIGURE 20.—(= Ward 413)

type, while next to it, in the upper register, is the caduceus standing independently on a flat base, and, beyond, the familiar nude goddess as a statue on a base.

In Ward 1278 is a particularly well done single snake backing up against a god whom Ward calls Shamash, probably because he rests one foot on what seems a conven-

tional mountain (Fig. 19). Such a single snake is twined around a pole in an inscribed Hittite cylinder (Ward 796) and held up by a god as his emblem.

Now Ishtar (and her prototype Bau) was the only thoroughly independent goddess of the Babylonian pantheon. The other goddesses were but pale reflections or counterparts of male

originals. Ishtar is the mother of the gods, mistress of the gods, mother and creator of mankind, the personification of fertility, of productivity, the source of all life, the beauty of heaven, the associate of the sun and moon gods, the helper in divination.

In the earlier type, that of the seated goddess, she does not, as I have said,

hold the caduceus, but instead there radiate from her shoulders

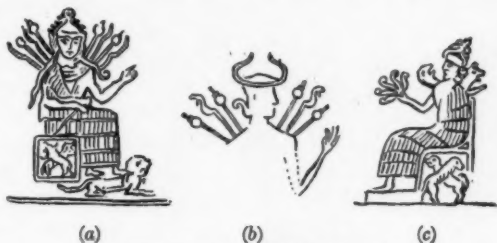


FIGURE 21.—(= Ward p. 377)



FIGURE 22.—(= Ward 685)

certain objects that are emblematic of her power. Sometimes they are a line of straight stems ending in a bulb, as in the relief of the Elamite ruler of the Lulubi (Fig. 20). More often these are in alternation with the upper part of snakes. The bulbs are seen to be identical with the fruit growing on many representations of the Tree of Life which is a common object of worship on Babylonian and later cylinders. It is also identical in shape with the poppy head or pomegranate which alternates with ears of corn in the bunch held by the Greek Mother Goddess. It is logical that the principle of fertility, the snake, and the embodiment of its action, the fruit of the Tree of Life, should be the earliest emblems of the Mother Goddess. In Figure 21 are some impressions of early seals from Telloh, from Heuzey, of extraordinary value. In *a* and *b*, the Life-fruit and the Serpent alternate in growing out of the god-



FIGURE 23.—(= Ward 763)

dess' shoulder. In *c*, the snakes radiate in a bunch from her right hand, while it is lions that grow from her shoulders. It was easy to mistake such bulbs for the bulbous head of a warlike mace (Fig. 21), but besides the proof given by this identity in



FIGURE 24.—(= Ward 464)

such thing as a mace or any kind of weapon could have been intended (Ward 464: compare Fig. 21*c*). In fact they are the prototype of the aureole with which Assyrian art encompassed the goddess (Fig. 25), whose rays or spokes end in just these knobby fruits of the Tree of Life (Ward 705). The conversion of solar rays into these fruits is shown graphically in the cylinders and admits of no doubt. If one compares the winged genius in Figure 25 who is fertilizing the aureole with Figure 23 (Ward 763) and 28 (Ward 685) where the process is going on under the sun-rays, the connection is evident; even closer is the analogy in Figure 22.



FIGURE 25.—(= Ward 705)

Compare also Figures 29 and 30.

The radiating bunch of bulbs is held also by a god (Fig. 26), especially when he has a prostrate human figure near or under his feet and stands with other hand raised (Ward 446),



FIGURE 26.—(= Ward 446)

holding a weapon. Evidently here also the bunch is not a weapon. In some cases (Fig. 33) it is more like a two-storied flower (Ward 449); both with the god and the goddess, as when it grows out of her shoulders. The god in these cases is re-

garded by Ward as probably Nergal, god of dessicating mid-summer heat, but his identity is quite uncertain.

Then there is the case of the branch of the Tree of Life with its three fruits, held by a god in the important seal of Dunghi, King of Ur (Fig. 27 = Ward 436). The moon-god Sin was chief-god of Ur and it is apparently he who appears, with the king as worshipper. He carries the singlesnake staff in his left, the wand with three bulbs of the Tree of Life in his right, and in front of him is the vase with two streams of the water of life ending in fronds or bulbs and with the Tree of Life rising in the centre. Dr. Ward says (p. 164) that what the god carries in his right is "a triple club, the three knobs of which indicate its terrible character." But that this is really a branch of the Tree of Life can be proved by its exact duplicates in Figure 28 (Ward 696), where two genii have each plucked a branch with three of these bulbs from the tree, and Figure 29 (Ward 692), where four of these branches are growing near the base of the tree. Ward 688 is like Figure 28 in having two genii holding the branch. This branch with the three bulbs is found in the hands of Assyrian genii adoring the Tree of Life: see Perrot and Chipiez, II, Fig. 29. I may be pardoned for introducing here from Mycenaean art (Fig. 30) the famous gold Signet-ring from Mycenae, with the Mother Goddess seated under the Tree of Life and holding the bunch of three "poppies" (?) almost identical with these Babylonian groups of three.

This matter of proving such bulbs whether single or as a branch or radiating from a centre to be part of the Tree of Life instead of weapons, to be symbols of



FIGURE 27.—(= Ward 436)



FIGURE 28.—(= Ward 696)



FIGURE 29.—(= Ward 692)

fertility instead of destruction, and that this is also true of the snake sword, has been dwelt upon rather fully because it radically changes the meaning of many scenes in Babylonian, Assyrian and Hittite art.¹ In fact, it may be said to strike at the root of a very serious misconception of modern scholarship, which lays emphasis upon the element of fear and of destructiveness in its interpretation of ancient religion.²

Returning now to the seated goddess, there are two very unusual features that bear on the previous questions which are noted by Heuzey in connection with certain figures of the goddess in the early Babylonian monuments of Lagash (Shirpurla-



FIGURE 30.—SIGNET RING FROM THE AKROPOLIS, MYCENAE

Telloh), already referred to in connection with Fig. 21. She sometimes holds in her right hand an emblem which on close examination proves to consist of a bunch of serpents: some-

times there are seven, which was, of course, the sacred or complete number. This supplements my previous argument, because it shows that both the emblems that radiated from the goddess' shoulders, serpents as well as tree fruits, were grouped into a sceptre for her right hand.³

¹ Assyrian cylinders are cited side by side with Babylonian cylinders because in so fundamental a matter as the ideas at the basis of the sacred tree and sun-worship, the kinship was very close.

² I expect to show in another paper that this has vitiated a large part of our ideas. Clubs, whips, swords, scimeters, daggers, hammers, axes, etc., must be thrown largely into the discard as emblems and weapons of destruction. Where they do inflict death—which they do much less frequently than is supposed—it is as a rule for the purpose of creating new life.

³ Heuzey mistook the lines below the face of Ish'ar for a beard and so thought it was a god instead of a goddess. Ward corrects this error.

The second unusual feature in a rare type is where the lions that are the third emblem of the Mother Goddess, instead of being merely her footstool or the adjuncts to her throne are made to grow out of her body at each shoulder (Ward 421 and p. 377) exactly as the snakes do in the Gudea type of Ningishzida figures (see Figs. 6 and 7). They thus become a real hypostasis of the goddess. They emerge so as to show their bodies below the forelegs. The lions are repeated, crossed and rampant under the seat of the throne.



FIGURE 31.—(= Ward 212)



FIGURE 32.—(= Ward 414)

3000 B.C. as it appears in works of the time of Dunghi, King of Ur, and Gudea, King of Lagash. The favorite emblem of the standing Ishtar is the caduceus, held in her right hand. A number of typical instances are given by Dr. Ward. In Ward 212, 414 and 417 (Figs. 31, 32, 33) the cylinders represent Ishtar with her right foot resting on a lion, with the caduceus as a long wand in her right, and the *harpè* or snake-scimeter hanging from her left hand. Her upper part is in front view: her lower part in profile. Another type is of the full-faced goddess standing on two lions, one under each foot (Ward 415,



FIGURE 33.—(= Ward 417)

442), with the caduceus in her right hand (Fig. 34). A very interesting scene in Ward 210, introduces a variation (Fig. 35). Ishtar is holding the caduceus with the vase rising between the



FIGURE 34.—(= Ward 442)

snake necks and it seems to rest on a small figure of the nude front-faced goddess Zirpanit in her common attitude of hands pressing her breast. She represents, as I have said elsewhere, the feminine reproductive element in Ishtar. Ramman, the god of rain and storm, is beyond, while back of Ishtar is the solar hero Gilgamesh from whom flow the life-giving streams of water. It is a synopsis of the productive forces. This cylinder is of northern art. The cylinder in Ward 418^a shows Ishtar with a vaseless caduceus and no lions. In Ward 135 the lions under her feet are replaced by two winged dragons. The caduceus in Ward 416 is also vaseless. The wand usually ends in a globe-like bulb at the base and has serpent coils along its whole length except in 418^a. In the two groups of projections from the goddess' shoulders we must recognize, as in her seated figure, the fruits of the Tree of Life. This is particularly easy to identify in Ward 414 (Fig. 32).



FIGURE 35.—(= Ward 210)



FIGURE 36.—(= Ward 440)

The above-mentioned examples cover fairly well the various types of the caduceus-bearing goddess, and show that in this standing attitude she was not a warlike figure but the aggressive Mother Goddess.

The Caduceus in the hand of a God.—

The caduceus was in a few cases connected with other divinities beside the Mother Goddess, that is with one if not two male deities. In Ward's 440, a figure supposed to be the Sun-god, Marduk, the supreme god of Babylon, holds the caduceus in his right and the *harpê* or sickle-shaped sword in his left (Fig. 36). It is impor-

tant to note that the sickle in this case shows plainly its snake origin. It is a snake with curved neck. One can follow the evolution of the sickle-sword from its primitive snake form with long body until in Assyrian art it reaches the straight-handled naturalistic form in which it passed to the Hellenic Perseus. This weapon was that used by Marduk in his fight with the Dragon Tiamat and the powers of Chaos or with the lion, the bull or the bird (Fig. 37 = Ward 615). The god—probably Sin—represented in a cylinder of Dungi, King of Ur (ca. 3100 B.C.), carries on his shoulder a wand ending in a single serpent with curving



FIGURE 37.—(= Ward 615)



FIGURE 38.—(= Ward 1027b)

neck; see Fig. 27. There is (Fig. 38) an interesting Hittite cylinder (Ward 1027^b) in which the principal deity advances with raised right leg holding a colossal caduceus in his right and a lowered weapon composed of two separate curving snakes in his left. This latter confirms the serpent derivation of the weapon on Babylonian cylinders which I have called the serpent-scimater, prototype of the harpê. Facing him is a figure holding two serpents in the right hand. The caduceus in this scene is quite unorthodox. Similarly schematic is Ward 1020, another Hittite work (Fig. 39) where the god, who is fighting a lion, holds the caduceus in his left as well as a pendant animal.¹



FIGURE 39.—(= Ward 1020)

The case for the caduceus in Western Asia may be summed up, therefore, as follows: At an extremely early period, not far from

¹ These two cases make it almost certain that in Ward 1027^a we have not a trident but a schematic caduceus.

4000 B.C., the Babylonians evolved the caduceus in the form of a plain wooden staff with two serpents coiled around its entire length, and they worshipped this caduceus as a god of spring and fertility and as messenger and agent primarily of the Mother Goddess and secondarily of the Sun-god. This god received in certain Babylonian circles the name Ningishzida, and was worshipped in human form as well as under the form of the caduceus. In Assyria and Persia there is no trace of the caduceus or caduceus god, but on the other hand both emblem and god passed from Babylonia to the Hittites and to Syria and Cyprus, and can be connected with the passing from the Babylonians to the Syrians of the cult of the counterpart of Ningishzida, the young spring god Tammuz.

The Hittite Caduceus-god of Hierapolis.—I have left out of the discussion until now what is altogether the most important proof of caduceus-cult among the Hittites: the group of three gods worshipped at Hierapolis in North Syria. This was one of the most sacred centres in Western Asia down to a late Roman period and was extraordinarily conservative in its cult and liturgy. It has had the advantage of a fuller exposition by an ancient author than was given of any other sacred fane. It is in the treatise *De Dea Syria* by Lucian, which can be supplemented by the *Saturnalia* of Macrobius.¹ The Hierapolis triad consisted of the Mother Goddess, who was supreme, of a coördinate yet subordinate male deity, the son-husband, and of a mysterious youth or nondescript emblem. The goddess was Atargatis and she was attended by lions: the god was Hadad and his attendants were two bulls. Lucian calls them Zeus and Hera simply to make them conform as far as possible to Hellenic ideas, but he admits that the Goddess has attributes of several other goddesses. I quote the most pregnant passages of Lucian from the translation given in Strong and Garstang, *The Syrian Goddess* (London, 1913). "There is in Syria a city not far from the river Euphrates: it is called 'The Sacred City' and is sacred to the Assyrian Hera

¹ Lucian was born at Samosata about 125 A.D. and calls himself a Syrian or Assyrian. He practised law at Antioch; visited Syria, Phoenicia and Egypt, was interested in philosophy and religion, visited many important centres of ancient cult, went to Rome for two years in ca. 150, spent ten years in Gaul, returned to the East, travelled through Asia Minor, and settled at Athens. Consequently he is well equipped to describe and interpret any monuments of oriental religion.

[i.e. Atargatis], (p. 41). The great temple is open to all; the sacred shrine to the priests alone and not to all even of these, but only to those who are deemed nearest to the gods and who have the charge of the entire administration of the sacred rites. In this shrine are placed the statues, one of which is Hera, the other Zeus, though they call him by another name. Both of these are golden, both are sitting; Hera is supported by lions, Zeus is sitting on bulls. The effigy of Zeus recalls Zeus in all its details—his head, his robes, his throne; nor even if you wished it could you take him for another deity. Hera, however, as you look at her will recall to you a variety of forms. Speaking generally she is undoubtedly Hera, but she has something of the attributes of Athene, and of Aphrodite, and of Selene, and of Rhea, and of Artemis, and of Nemesis, and of the Fates. In one of her hands she holds a sceptre, in the other a distaff; on her head she bears rays and a tower and she has a girdle wherewith they adorn none but Aphrodite of the Sky. And without she is gilt with gold, and gems of great price adorn her, some white, some sea-green, others wine-dark, others flashing like fire. Besides these there are many onyxes from Sardinia and the jacinth and emeralds, the offerings of the Egyptians and of the Indians, Ethiopians, Medes, Armenians, and Babylonians. But the greatest wonder . . . she bears a gem on her head called a Lychnis. . . . From this stone flashes a great light in the night-time, so that the whole temple gleams brightly as by the light of myriads of candles. . . .

"Between the two [gods] there stands another image of gold, no part of it resembling the others. This possesses no special form of its own, but recalls the characteristics of the other gods. The Assyrians themselves speak of it as a symbol [σημῆιον, "semeion"], but they have assigned to it no definite name. They have nothing to tell us about its origin, nor its form: some refer it to Dionysus; others to Deucalion; others to Semiramis; for its summit is crowned by a golden pigeon, and is why they allege that it is the effigy of Semiramis. It is taken down to the sea twice in every year to bring up the water of which I have spoken." This attempted description by Lucian of the third image of the group of cult statues in the temple is a descriptive failure, so that the form of it has remained a mystery, for what he says is merely negative. It occupied a central position between the enthroned pair, but it was not a human figure. It was called

by the Syrians "Semeion"; had no resemblance to either of the other figures but represented some of their characteristics. His last sentence is interesting as it shows that the image could hold water and was the means of reconsecration of the temple.

Six quotes the Syrian writer Melito¹ as making Simo the daughter of Hadad, who draws water in the sea [*i.e.* Euphrates] and throws it into the sacred temple chasm. Another legend makes the daughter of Atargatis and Hadad to be Semiramis. On the other hand Diodorus (II, 4) turns "Semeion" into "Simios," a youth who was the lover of Atargatis. Dussaud has proposed to see in Simios the Son-lover of the goddess and compares the Hierapolitan triad Hadad-Atargatis-Simios with the Heliopolitan triad, Jupiter-Venus-Mercury.

The passage of Macrobius is more specific, both as to the original names of the two gods and as to their solar characteristics (*Sat.* ch. 23): "The Syrians give the name *Adad* to the god, which they revere as first and greatest of all;² his name signifies 'The One.' They honour this god as all powerful, but they associate with him the goddess named *Adargatis*, and assign to these two divinities supreme power over everything, recognizing in them the *Sun* and the *Earth*. Without expressing by numerous names the different aspects of their power, their predominance is implied by the different attributes assigned to the two divinities. For the statue of *Adad* is encircled by descending rays, which indicate that the force of heaven resides in the rays which the sun sends down to earth: the rays of the statue of *Adargatis* rise upward, a sign that the power of the ascending rays brings to life everything that the earth produces.³ Below this statue are the figures of lions, emblematic of the earth; for the same reason that the Phrygians so represent the Mother of the Gods, that is to say, the earth, borne by lions."

Cumont⁴, in discussing the formation of triads in the evolution of oriental local cults, especially in Syria, says: "To the primitive

¹ Six, in *Num. Chron.* 1878, p. 119-120.

² This is, of course, an error on the part of Macrobius, so far as Hierapolis is concerned, where the goddess was supreme and the god quite secondary: a relation quite general in Asia Minor and Syria.

³ Rather does it symbolize the universal ancient belief in the origin of the Sun from the earth.

⁴ *Oriental Religions in Roman Paganism*, pp. 123, 250: cf. Perdrizet, *Rev. Etudes anc.* III, 1901, p. 258: Dussaud, *Notes de Mythologie syrienne* (Paris, 1903), p. 24, 115; Jalabert, *Mélanges fac. orient. de Beyrouth*, I, 1906, pp. 175 ff.

couple of the Baal and the Baalat a third member was added in order to form one of those triads dear to Chaldean theology. This took place at Hierapolis as well as at Heliopolis, and the three gods of the latter city, Hadad, Atargatis and Simios, became Jupiter, Venus and Mercury in Latin inscriptions."

We have, then as the third figure of the Hierapolitan triad, a youthful person, sometimes thought of as male, sometimes as female, offspring and lover of one or both of the principal deities.

That some part in the ancient cult was taken by a youthful god or hero who stood in some intimate relation to the Mother Goddess is also certified by the various traditions as to the founding of the temple reported by Lucian. Its antiquity is claimed in the story of its foundation by Deucalion—Xithuthros after the Flood; or by Semiramis in honor of the fish goddess Derceto (=Atargatis); or by Attis in honor of Rhea, whose sacred mysteries he taught to the Phrygians, Lydians, Samothracians, etc.; or by the youthful Dionysus in honor of his "step-mother" Hera, to whom he dedicated the two enormous phalli that Lucian saw in front of the temple. The story that Lucian relates of the building of the second temple by a handsome youth named Combabus for the Assyrian queen Stratonice, hinges about his castrating himself to avoid scandal and the consequent custom of castration at the shrine. This story seems based on the legends of Ishtar and Tammuz, Cybele and Attis, Astarte and Adonis, etc. It is of interest mainly in its bearing on the local question of the third deity of the Heliopolitan triad.¹

¹ After the "Semeion" Lucian describes other statues in the temple, which are of real interest as helping to understand the character of the local cult: (1) a throne for the Sun-god, without any image; (2) Behind the throne a statue of Apollo, unusual because bearded and robed; (3) Behind Apollo a statue of Atlas; and (4) behind that a statue of Hermes and Eilithya. To supplement the brief description of the Apollo we have the passage in the *Saturnalia* of Macrobius (I, XVII, § 66, 77) who says: "The Hierapolitans, a Syrian people, assign all the powers and attributes of the Sun to a bearded image which they call Apollo. His face is represented with a long pointed beard, and he wears a *calathos* on his head. His body is protected with a breastplate. In his right hand he holds upright a spear, on the top of which is a small image of Victory; in his left is something like a flower. From the top of his shoulders there hangs down behind a cloak bordered with serpents [i.e., an aegis]. Near him are eagles, represented as in flight: at his feet is the image of a woman, with two other female forms right and left; a dragon enfolds them with his coils." One is tempted to see in this description a corrupt passage which originally described a caduceus-deity flanked by two adorers. Frazer and Garstang are probably right in the equation Apollo = Sandan = Attis.

The key to the mystery is supplied by a Roman coin of Hierapolis of the third century which reproduces the group of cult statues who are identified as such beyond question by the inscription ΘΕΩΙ CΥΡΙΑC ΙΕΡΟΠΟΛΙΤΩΝ "The gods of Hierapolis of Syria." This type was struck at Hierapolis with slight variations under Caracalla and Alexander Severus.¹ This coin is enlarged in Figure 40. The supremacy of Atargatis is indicated by the lion at the base. We recognize the goddess with her lions on the right, and the god with his bulls on the left. The stiffness of the images would indicate an early date. In the centre is the mysterious Semeion, Simi or Simios. We see what



FIGURE 40.—THE TRIAD OF SYRIAN GODS OF HIERAPOLIS (Coin of Third Cent. A.D.)

is evidently a tabernacle with gable and roof. On top perches the dove, as Lucian describes. Inside stands a staff encircled by what seem at first glance to be four circles or wreaths. Numismatics have more or less half-heartedly accepted the opinion of Six that this is a Roman standard or legionary eagle. No archaeologist can agree to this after reflecting for a moment on the absolute impossibility of supposing a Roman standard to have been substituted

for a god in the *sanctum sanctorum* of so holy and ancient a city as Hierapolis. Besides, there is in this image not the least resemblance to Roman standards or to their commonly known coin types. The fact of the matter is that the circles are not the solid medallions of Roman standards but are serpent coils. The shadows and lines show that there is a continuity and not a solu-

¹ Six, in *Numismatic Chronicle*, 1878, p. 119; Pellerin, *Mélange*, I, p. 189, pl. VIII, 12; *Numi vet.*, pt. II, tab. III, 2; Imhoof, *Griech. Münz.*, p. 759, No. 772; Strong and Garstang, *The Syrian Goddess* (London, 1913, pl. I, and Fig. 7). The enlarged cut in Fig. 7 of the latter work is quite inaccurate in the details of the central part, making complete circles with shadows that do not exist on the coin, in order to make it seem like a Roman Standard.

tion of the curved lines.¹ The third figure, then, is evidently a caduceus-god, worshipped in almost exactly the form in which he appeared on the Gudea vase.

We can now appreciate that the Heliopolitan trinity of Zeus—Aphrodite—Hermes, is so truly, as Dussaud suggests, the analogue of the Hierapolitan, that we can say Simios = Hermes.²

Also we can see, from the description in Macrobius, how Simios would naturally be the spring sun. Remember that the statues of both Atargatis and Hadad had solar rays; that those of Atargatis shot upward and those of Hadad shot downward. In other words, that the sun was born out of the earth before gaining the power to react upon it. Simios symbolized perhaps the mingling of the emanations from the two principles.

The Phoenician Tablet of Tarragona.—There is in the museum of Madrid a polychromatic Phoenician tablet³ in which Milani sees the *connubium* of the two primordial deities, or, as he puts it, the *ἱερός γάμος* of Baal and Tanit, the supreme Phoenician gods (Fig. 41). Notwithstanding the fragmentary condition of the tablet it is evident that it was circular, representing the cosmos, surrounded by water, with fish, birds (?) and snakes. Within the border are the sun [moon], and stars. Below are two palm trees, the staminate male palm and the pistillate female palm. Beyond them are the two snakes, both erect and winged; the male snake, horned and with butterfly wings near the male tree, and the female snake, with a line of teats and bird wings near the female tree. A wing on the left shows there were birds. Flames issue from the earth in the centre. The central group consists of two figures, the male on the right, and the female on the left. By their interaction they are producing life

¹ The drawing from which my Figure 40 is reproduced was made without preconception by a clever miniature artist whose trained eye can be depended upon. The drawing from the coin in Garstang not only changes the real outlines—unconsciously of course—but adds some ball-like excrescences which do not exist in the coin.

² Hermes in the form of a boy seems to be represented, at his birth, on a Palmyrene altar to the Sun-god. The boy is born from the cleft of a cypress tree, from which he half emerges, holding a ram with both hands, a youthful Hermes Kriophoros. The fact that this figure has been called Attis and Adonis merely emphasizes the essential connection, which should be extended to Osiris, Tammuz, etc.

³ Ladelci, in *Atti dell'Accad. pontif.* t. 38, 4, February 1885; Milani, *Studi e materiali*, I, Fig. 4, pp. 37-39.

from two sources: the sperma issuing from the body of Baal, passing to and out of the body of Tanit in a concentric spiral motion which finally centres in a human-face embryo. The spiral fluid is inhabited by moving animal corpuscles and is being nourished by milk flowing from the breast of Tanit, whose body is wrapped in decorative zones similar to those on the well-known figures of the Diana of Ephesus. This represents the element of moisture. The element of heat is represented by the flames springing from the earth and diffusing warmth through the vital protoplasms.



FIGURE 41.—THE ORIGIN OF LIFE: PHOENICIAN TABLET AT MADRID.

The second form of vital interaction is more spiritual and is represented by the flying bodies that pass between the open mouths of the two human figures, or rather from Baal to Tanit. They are in the form of alternating small winged creatures and tiny globular objects. As the first form of intercourse referred to the creation of the material universe, this second form evidently symbolises the creation of the soul. It is a well-known fact that in practically the entire ancient world "soul" and

"breath" were synonymous and also that the soul's emblem was often the butterfly.

It is allowable, I think, to infer that in the scheme of the origin and recurrence of life expressed in this Phoenician monument, all terrestrial life—of plants and animals—is due to the union at the beginning of the universe of the two principles of heat and moisture individualized in the two human figures. This Babylonian scheme, therefore, which was treated on pp. 187ff., appears to have survived in Syria and Phoenicia to a late date, because we can hardly date this tablet from a period much earlier than

the Alexandrian age. Baal and Tanit are merely names for the two supreme gods that correspond to the Babylonian pair.

This Phoenician tablet is particularly valuable in being the counterpart of the Hierapolitan triad in the sense that it shows the cosmogonic side of the Oriental scheme of the universe while the Hierapolitan group expresses the same idea from the theological point of view, though the third figure is an archaic cosmogonic survival which had been in most other forms of the cult sloughed off in favor of a purely anthropomorphic form of the triad.

This brings us to the end of the Oriental evolution of the caduceus. The next and concluding paper will take us to Italy at a very early date and will show the caduceus as the house-god of the early Latins and of primitive Rome; and the Etruscans as having brought to Italy the Hittite and Babylonian caduceus-god.

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PRINCETON, N. J.

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P. S.—Since going over the first proof I have read the careful study of the Hierapolitan deities and coins in A. B. Cook's *Zeus*, I, pp. 582-589. He reproduces not only the coin-type I have used but (Fig. 448) the coin of Caracalla with the figures in smaller size and an eagle below in place of a lion. Of the central "figure" he says: "This sceptre or standard is neither "anthropomorphic nor theriomorphic, but the four medallions, "if such they are, that are hung upon it may well have borne "the effigies of the temple-deities. On the whole it seems "probable that a royal sceptre or standard enclosed in a shrine "of its own, was the central object of worship." This is but a variant of the Roman Standard theory. As we have seen, the object is theriomorphic.

ARCHAEOLOGICAL DISCUSSIONS¹
SUMMARIES OF ORIGINAL ARTICLES CHIEFLY IN
CURRENT PUBLICATIONS

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GENERAL AND MISCELLANEOUS

Rock Architecture in the Mediterranean Basin.—Under the title *Über Felsarchitektur im Mittelmeergebiet* (Mitt. Vorderas. Ges. XIX, 1914, Pt. 2. 96 pp.; 40 figs.), E. BRANDENBURG publishes a study of the rock-cut structures in the Mediterranean basin. These include dwellings, stables, cuttings serving as supports for vessels, and places of refuge. He also discusses the use of wood in these buildings. He would date the earliest of the artificial grottoes at the end of the neolithic period; and the earliest of the large grottoes at the beginning of the Bronze Age, or about 2500 B.C. About 1400 B.C. came the imitation of wooden buildings in stone, and this attained its highest development about 1000 B.C. in the Phrygian façades. From about 300 B.C. to the Christian Era there was a revival in the construction of grottoes, and about 1300 to 1500 A.D. a second revival. In another part of the book he discusses rock cuttings for cult purposes, shrines, niches, steps, carved reliefs, etc.; also graves and catacombs, unidentified forms, and finally the rock dwellings of North Africa. Rock architecture spread from Persia and Armenia to Syria, Palestine, Malta and Italy. It was especially common in Hittite territory in the third millennium B.C.

The Migrations of Early Culture.—Under the title *The Migrations of Early Culture* (London, New York, Bombay, 1915, Longmans, Green & Co. 143 pp. 8vo. \$1.25 net. Reprinted from *Memoirs and Proceedings of the Manchester Literary and Philosophical Society*, Vol. 59, Pt. 2), GRAFTON ELLIOT SMITH argues that the practice of mummification, of erecting megalithic monuments, etc., found in various parts of the world, originated in Egypt; that about 800 B.C. this "culture" began to migrate until it spread over the world, crossing the Pacific to the coast of America.

The Mounds of Macedonia.—In *B.S.A. XX*, Session of 1913-1914, pp. 123-132, A. J. B. WACE gives a list of the mounds of Macedonia. In the pre-

¹The departments of Archaeological News and Discussions and of Bibliography of Archaeological Books are conducted by Professor BATES, Editor-in-charge, assisted by Professor C. N. BROWN, Miss MARY H. BUCKINGHAM, Dr. T. A. BUENGER, Mr. L. D. CASEY, Professor HAROLD R. HASTINGS, Professor ELMER T. MERRILL, Professor CHARLES R. MOREY, Professor LEWIS B. PATON, Professor A. S. PEASE, Professor S. B. PLATNER, Professor JOHN C. ROLFE, Dr. JOHN SHAPLEY, Professor A. L. WHEELER, and the Editors, especially Professor MARQUAND.

No attempt is made to include in this number of the *JOURNAL* material published after December 31, 1915.

For an explanation of the abbreviations, see pp. 123-124.

historic mound near Serfje the sherds found are of the First and Second Thessalian Periods. The mounds of the Salonica district are (a) funereal mounds (34 in number, so far as listed) and (b) prehistoric settlements (26 in number), the character of which is proved by the pottery found—undecorated, incised, painted with Macedonian and Thessalian patterns, imported Mycenaean ware, and ware which seems to be imported geometric pottery, though it may be of local manufacture. A third type of mound is that of (c) Greek town sites, ten in number.

Thracian Archaeology.—In *R. Arch.*, fifth series, II, 1915, pp. 165–208, GEORGES SEURE continues his discussion of little known Thracian inscriptions. No. 134 is a replica of *C.I.L.* III, 6123 and 14207. It sheds light upon the military and other roads of Thrace, which are discussed. No. 135 is a fifth copy of the frontier stone placed under Hadrian between the Moesians and the Thracians (*C.I.L.* III, 749, p. 992, 12407, 14422). Nos. 136–139 are milestones bearing the name of the city of Sexaginta Prista (Roustchouk). Nos. 140–142 are inscribed on a milestone from Stambolovo. The emperors mentioned are Licinius and Constantine (for whose names those of Theodosius and Arcadius were later substituted), Valentinianus, Valens and Gratianus, and Valentinianus, Theodosius and Arcadius. No. 143, on the base of a statue, bears the names of L. Septimius Severus, Marcus Aurelius, and (erased) Geta. No. 145 is on a pedestal erected in honor of Caracalla. Nos. 146 and 147 are honorary inscriptions, the first in honor of an athlete of Trajana Augusta, the second in honor of a citizen of Trajana Augusta, who was an honorary citizen of Sparta, where he had doubtless studied philosophy. The date is apparently the second century A.D.

The Stele of Darius on the Tearus.—The spot at the sources of the river Tearus in Thrace, where, according to Herodotus IV, 89–91, Darius Hystaspes, on his expedition against the Transdanubian Scythians in 514 B.C., set up an inscription to commemorate the excellence of the waters, was apparently identified by E. UNGAR, in June–July, 1914, with the help of Herodotus's detailed description, as at Jene (Jenno), a place on the road from Seraj to Kirk Kilissi. It is about equally distant, as Herodotus says, from Apollonia on the Black Sea (Sizeboli, on the bay of Burgas) and Heracleion near Perinthus (Eregli) on the Sea of Marmora. The stele itself is missing, but the oblong socket into which it fitted, on a stone of the ancient wall at the head of the spring-basin, is still there, and the water still flows, in two streams of great purity and abundance. The length of the socket is at right angles with the direction of the wall, so that both sides could easily be read, which suggests the probability that the inscription was bilingual, Greek and cuneiform, like that of Darius's Bosphorus stele (*Hdt.* IV, 87). It is to be hoped that at least some fragments of the stele itself may in time come to light. (*Arch. Anz.* 1915, cols. 3–16; 4 figs.)

The Omphalos.—Under the title *Neue Omphalosstudien* (*Abh. der phil.-hist. Klasse der kgl. Säch. Gesellschaft der Wiss.* XXXI, No. 1. Leipzig, 1915, Teubner. 90 pp.; 7 pls.; 58 figs. M. 4.40), W. H. ROSCHER publishes a second paper on the *omphalos* (see *A.J.A.* XVIII, 1914, p. 524). He discusses further the meaning of the word, revises and adds to his account of the *omphalos* among various peoples, discusses its connection with the oracles at Delphi and at Didyma, the monumental evidence for it at Delphi, grave monuments in the form of an *omphalos*, and doubtful examples.

The Omphalos among the Celts.—In *R. Ét. Anc.* XVII, 1915, pp. 193–206 (9 figs.), J. LOTH sets forth the evidence, both literary and archaeological, for the cult of the *omphalos* among the Celts.

Unknown Gods.—In *Arch. Rel.* XVIII, 1915, pp. 1–52, O. WEINREICH discusses questions relating to “unknown gods,” and examines the evidence for that expression.

A Prehistoric Rattle.—In *L'Homme préhistorique*, II, 1914, pp. 276–282 (3 figs.), H. ARAGON shows that a terra-cotta object of peculiar shape with holes in it found at Ruscino in 1910 is a prehistoric child's rattle.

Trenches in Ancient Warfare.—In *R. Ét. Gr.* XXVIII, 1915, pp. 103–128, V. CHAPOT discusses the use of ditches and trenches in warfare by the Greeks and Romans.

A History of Classical and Italian Art.—In Parts 21 and 22 of the *Storia dell'Arte Classica e Italiana* edited by G. E. Rizzo and P. Toesca, Professor TOESCA continues his discussion of the minor arts in Italy down to the end of the eighth century A.D., and begins his discussion of the architecture from the end of the eighth to the eleventh century. Notes accompany the text. [G. E. RIZZO e P. TOESCA, *Storia dell'Arte Classica e Italiana*. Fasc. 21–22. P. TOESCA, *Storia dell'Arte Italiana*, Vol. III, pp. 321–384; figs. 194–231. Turin, 1915, Unione Tipografico-Editrice Torinese. 4to. 21.]

The Gundestrup Bowl.—A round silver bowl or kettle, decorated with barbaric reliefs on the rounded floor and on the outside and the inside of the cylindrical portion, which has been much discussed since it was found in 1891 in Jutland, Denmark (see *A. J. A.* XII, 1912, pp. 447–448), is again exhaustively studied in its historical aspects by F. DREXEL, in *Jb. Arch. I.* XXX, 1915, pp. 1–36 (29 figs.). In its mixture of Celtic with early Ionian and other elements of style or subject, he finds evidence of an origin, probably in the middle of the first century B.C., in some Celtic community on the middle or lower Danube, which had commercial and friendly relations with the kingdom of Pontus. This indicates the Celtic Scordisci, at that time established in the Balkan peninsula and allied with the Dacians and with Mithridates Eupator, the most famous of the kings of Pontus. The Greek features include reminiscences of the divinities of the animal kingdom, both male and female, a dolphin, a Pegasus, heraldic animals, griffins, birds, etc.; the stag-god (Cernunnus), the wheel-god (god of war), a trinity of deities, a human sacrifice, a parade of soldiers, horned helmets, etc., are Celtic. The relief on the floor of the kettle is an extraordinary attempt to render the figures of a bull-baiting as if seen from above,—a reminiscence of the vessels of early Egyptian origin, in which the decorative figures on the inside were actual standing figures in the round. The curious return of the spirit and many of the features of this art in early mediaeval times is due to its survival in the obscure regions between orient and occident during the centuries in which the more classical Greek and Graeco-Roman art prevailed in the outer world, and to the movements of the great migrations which swept it again into Europe.

The Abbé Migne.—In *R. Arch.*, fifth series, I, 1915, pp. 203–258 (3 portraits), is an essay by F. DE MÉLY on the Abbé Jacques-Paul Migne (1800–1875), his life, his stupendous industry in the publication of his vast *Patrologies*, and the contents of his publications.

The Tsong Tablet of the Tchcou-Li.—In *R. Arch.*, fifth series, II, 1915, pp.

126-154 (5 figs.), G. GIESELER discusses the Tsong tablet of the Techeou-Li. The form of such tablets (of jade) was that of a cylinder to which four prisms were added in such a way as to produce a cippus of almost square section. The whole symbolizes the earth, and the decoration symbolizes the heavenly bodies and the seasons. The development of the form and decoration is traced in some detail.

EGYPT

The Egyptian Word for "Dragoman."—In *S. Bibl. Arch.* XXXVII, 1915, pp. 117-125 (pl.), A. H. GARDNER argues that the rare Egyptian sign which has been variously interpreted as a jar with ears, or as a wallet tied with a string, is to be read phonetically, and is the Egyptian name for "dragoman." This official played an important part in all periods of Egyptian history.

Amentet.—Under the title *Amentet*, ALFRED E. KNIGHT has published brief descriptions of no less than 107 Egyptian divinities, with illustrations of them where they exist. He includes in the work a list of sacred animals, amulet representations of the human figure, and other amulets; also scarabs, and a list of all the royal scarabs. The material is arranged alphabetically wherever that is possible. [*Amentet. The Gods, Amulets and Scarabs of the Ancient Egyptians.* By ALFRED E. KNIGHT. London, 1915, Longmans, Green and Co. 274 pp.; 5 pls.; 189 figs. 8vo. \$4 net.]

Fundamental Religious Conceptions of the Elephantine Text.—In *Z. Alttest. Wiss.* XXXV, 1915, pp. 110-115, E. KÖNIG shows that the word 'eldhln has regularly a plural meaning in these texts so that it implies polytheistic conceptions among the Jews of Elephantine. The names Yahu, 'Ashim-Bethel and 'Anath-Bethel cannot be regarded as the names of human beings, but are deities, and prove the worship of at least two goddesses alongside of Yahweh by these Egyptian Jews of the fourth century B.C.

Hebrew Words in Egyptian.—In *S. Bibl. Arch.* XXXVII, 1915, pp. 208-214, E. NAVILLE shows that the word "Canaanite" in the meaning of "merchant" that is so frequent in the Old Testament is found also in Egyptian texts. Succoth, the first station of the Hebrews in the Exodus, appears in Egyptian as Theku, and it is written with the sign for a foreign name. This word is the same as the Berber word *Thukka*, "pasture." The name Aduma, which is also written Adima, is not the equivalent of Edom, as has always been supposed but is the equivalent of the Hebrew *Etham*.

An Aramaic Papyrus of the Ptolemaic Period.—In *S. Bibl. Arch.* XXXVII, 1915, pp. 217-223 (pl.), A. COWLEY discusses an Aramaic papyrus lately presented to the Bodleian Library by Professor Sayce. It shows that there was an organized congregation of Jews either at Abydos (?), or at Tba, or both, in the third century B.C., if that is the date of the writing. The "judges" are probably officers of the state, not the Jewish elders, but it looks as though the "heads of the congregation" were recognized by them. The general sense of the document seems to be that the three litigants were concerned with the division of certain property, including a house at Tba. The most interesting fact is that part of the property consisted of a *Tôra*. In the Elephantine papyri there is no *Tôra*, no Israel, no Jacob, no Levite, and the priests are not sons of Aaron. By the third century the *Tôra* had reached South Egypt, perhaps brought by colonists from Palestine.

Ancient Flutes from Egypt.—Some bronze and ivory fragments of flutes found at Meroe, the ancient capital of Nubia, and now exhibited in the Archaeological Museum of the University of Liverpool, are the occasion of a brief discussion of the construction of ancient flutes, by T. LEA SOUTHGATE, in *J. H. S.* XXXV, 1915, pp. 12-21 (fig.). These pieces are probably the remains of some elaborate instruments brought by a visiting musician from Greece to this city in its brilliant period, when Cambyzes had made it the capital of his province of Egypt. They were made in jointed sections and had an inner tube of ivory with bore from $\frac{7}{16}$ to $\frac{10}{16}$ of an inch, and a tightly fitted bronze covering. The finger holes are some round, some oblong, and one comma-shaped—the last two being adapted to a varying of the tone by partial closing. They still have the revolving rings for temporarily closing the holes not needed in a particular scale, without using the fingers, and the small conical projections for turning these rings, which have given the name "*bombyz*," silkworm, to this style of flute. The exact length and indeed the number of the instruments here represented is uncertain, as well as the method of blowing, but it is probable that the breath was reinforced by the use of reeds. That these may have been transverse flutes, played through a hole on the side like the modern instrument, is shown by the fragments now in the British Museum, of a flute with mouthpiece on the side, which were found by Sir Charles Newton in a grave at Halicarnassus at the time of the Crimean War.

A Coptic Papyrus.—In *Λοχ. Έφ.* 1915, pp. 30 f. (pl.), A. CH. HATZES publishes a facsimile and transcription, without translation, of a sheet of a Coptic papyrus manuscript, written in Greek characters, found at Arsinoe (Fayûm), and now in the possession of the Archaeological Society at Athens.

BABYLONIA, ASSYRIA AND PERSIA

A Sumerian Epic.—In Volume X, Number 1 of the *Publications of the Babylonian Section* of the Museum of the University of Pennsylvania, Professor LANGDON publishes with transliteration and translation the large tablet in Philadelphia giving a Sumerian account of the Flood and the Fall of Man (see *A. J. A.* XIX, 1915, pp. 182-183). He discusses the various creation legends, the Eridu version of the Fall of Man, the Nippur version, the Babylonian tradition of the prediluvian period, and the meaning of Tagtug. He also publishes twenty-one lines of a tablet containing a legend about Zi-ud-sud-du, the hero of the Flood. [*Sumerian Epic of Paradise, the Flood and the Fall of Man.* By STEPHEN LANGDON. Philadelphia, 1915, University Museum. 98 pp.; 6 pls. 4to.]

The Garden of Eden and the Fall of Man According to the Sumerians.—In *Exp. Times*, XXVII, 1915, pp. 88-90, A. H. SAYCE states that the fragment of the tablet first copied referred to the land being covered by water as well as to a boat. It was, therefore, natural that we should have thought we had a Sumerian version of the Deluge before us. Now that the whole tablet has been substantially recovered, it is evident that it contains nothing of the sort. Along with the Deluge must go the explanation of the name of the hero as the equivalent of the Semitic Noah.

The Niffer Story of the Creation and the Flood.—In *Exp. Times*, XXVI, 1915, pp. 490-494, T. G. PINCHES discusses an account of the Creation and the

Flood, current about 2000 years B.C. at the Babylonian city of Niffer, published by A. Poebel in the University of Pennsylvania *Museum Journal*. Mutilated though it is, this text is a document of considerable importance. There is still enough certain in the record to make possible a comparison with the other known Babylonian versions of the Creation and the Flood. In the eleventh tablet of the Gilgames series the great mother-goddess, who laments over the destruction of mankind, whom she had created, is Mah, "the lady of the gods," Merodach's spouse, so that the two are in complete accord here. From the opening lines of the first column, however, it would seem as though the gods, at the time they, with the help of the goddess, created man and the "four-limbed beasts of the plain," had foreseen the advent of the Flood at a later date, and had provided for the revivification of the human race, by placing in the ground the thing rendered "root," which, later on, the Babylonian Noah, here called Zi-ù-sudu, named "the seed of mankind."

The Babylonian and the Biblical Flood Story.—In *Exp. Times*, XXVI, 1915, pp. 421-424, A. H. SAYCE claims that a detailed comparison of the Biblical flood story with the version of the Babylonian story contained in the Epic of Gilgames shows that behind the Biblical account lie two Babylonian versions of the story. One of these, which has been translated into Hebrew, is the version which we have in the Epic of Gilgames. Another account in Babylonian cuneiform, which has also been translated, was written in Palestine, or at all events from the point of view of an inhabitant of Palestine.

Sumerian Documents to the Dynasty of Agade.—In Volume IX, Number 1 of the *Publications of the Babylonian Section* of the Museum of the University of Pennsylvania, Professor GEORGE A. BARTON has collected 132 tablets (including fragments) of Babylonian documents from the earliest times to the dynasty of Agade. All are transcribed in facsimile and photographs of the best preserved texts added. The writer transliterates and translates six tablets and gives a list of the proper names found in the whole series. [*Sumerian Business and Administrative Documents from the Earliest Times to the Dynasty of Agade*. By GEORGE A. BARTON. Philadelphia, 1915, University Museum. 33 pp.; 74 pls. 4to.]

Babylonian Letters of the Time of Hammurabi.—Professor ARTHUR UNGNAD has published, as Volume VII of the *Publications of the Babylonian Section* of the Museum of the University of Pennsylvania, 133 letters of the time of Hammurabi preserved in the Museum. Following the practice in the other volumes of the series he transcribes the tablets, adding photographic plates of those best preserved. Eight tablets are transliterated and translated, as is an inscribed cone of 81 lines written in the earlier part of the reign of Hammurabi—and now in the Museum. A list of the proper names is added. [*Babylonian Letters of the Hammurabi Period*. By ARTHUR UNGNAD. Philadelphia, 1915, University Museum. 50 pp.; 114 pls. 4to.]

The Son's Portion in the Oldest Laws Known.—In *Exp. Times*, XXVII, 1915, pp. 40-42, A. T. CLAY reports that a tablet recently secured for the Yale Babylonian collection proved to belong to a period earlier than that of Hammurabi, and to contain laws written in Sumerian. The first law on the reverse of the Sumerian tablet reads: "If (a man) push a daughter of a man, and make let fall the possession of her interior, he shall pay ten shekels of silver." The second reads: "If (a man) strike the daughter of a man, and make let fall

the possession of her interior, he shall pay one-third of a mina of silver (twenty shekels)." These two laws are condensed into one in the Hammurabi Code. The third law covers the loss of a hired ship through carelessness. The fourth legislates with reference to a son who renounces his sonship, and receives his portion. The fifth refers to the repudiation of a child, doubtless one who was incorrigible. The sixth covers the case of elopement; the seventh, the enticing away, or the abduction of a girl, after her parents had refused to give her in wedlock. The eighth deals with the killing of a hired ox by a wild beast; and the ninth, the loss of a hired animal through neglect.

The Deification of Kings, and Ancestor-Worship, in Babylonia.—In *S. Bibl. Arch.* XXXVII, 1915, pp. 87-95, 126-134 (4 pls.), T. G. PINCHES claims that certain inscriptions seem to show that ancestor-worship existed at least in the case of the kings of Babylonia. The possibility that the offerings recorded were really made on behalf of, and not to, Sur-Engur, Dungi, and the other personages, seems to be negatived by the fact that they all appear on the same plane, and in the same position, as Agar, the god of the place. Moreover, some of them were made to the seats or thrones of these rulers, as well as to the chariot mentioned in the passages where the lunar festivals are referred to; and it is to be noted that offerings to these objects are much more probable than offerings on their behalf. Though nothing is said in these inscriptions about the persons to whom the offerings were made being dead, there is no doubt that this was the case, as the remoter ancestors of the great Dynasty of Ur must long since have passed away. For the believers, however, they were as much living beings as the deity in whose temple divine honours were paid to them.

Babylonian and Assyrian Sculpture.—A brief and well illustrated account of Middle and New Babylonian and Assyrian sculpture is an important addition to the series of small handbooks issued under the name of *Der alte Orient*. The facts are stated without more discussion than seems unavoidable, but with sufficient detail to render the account intelligible and connected. [*Grundzüge der mittel- und neubabylonischen Plastik*, von Dr. BRUNO MEISSNER. Leipzig, 1915, Hinrichs'sche Buchhandlung. 156 pp.; 144 figs. 8vo. *Der alte Orient*, 15. Jahrgang, Heft 3/4.]

The Lion-Headed God of the Mithraic Mysteries.—In *S. Bibl. Arch.* XXXVII, 1915, pp. 151-162 (2 pls.), F. LEGGE maintains that the conclusions which seem to follow from the new as well as from the old discoveries are that the lion-headed figure found in the Mithraic chapels does not represent the Supreme Being Zervan Akerana, or Boundless Time, but Ahriman, the God of Darkness; that in Mithraism Ahriman was not originally, nor perhaps ever, looked upon as an exclusively evil being; that it was only in the later stages of the worship of Mithra, that the figure of Ahriman was purposely made hideous and concealed from the sight of the inferior initiates.

SYRIA AND PALESTINE

A Group of Hebrew Names of the Ninth Century B.C.—In *Exp. Times*, XXXVII, 1915, pp. 57-62, G. B. GRAY discusses the Hebrew proper names found on the ostraca discovered at Samaria in the years 1908-1910 by the expedition of Harvard University. Although Ahab's name has not been

found, the names of more than thirty individuals, who were probably his contemporaries, occur in the inscriptions. The first group of Old Testament names consists of pre-Davidic names, the second of contemporaries of David, the third of contemporaries of Jeremiah. The chronological gap between the second and third of these groups is supplied by the ostraca from Samaria. The group as a whole resembles the group of names of David's contemporaries in 2 Sam. 9-20. The compounds with *Yah*, here both at the beginning and end of words written *Yo*, are clear. The ostraca show two (or including Abiezer, three) compounds with 'Ab, two with 'Ah, and one with 'Am out of a total of 37 (or 32). Two compounds with *El* at least, four probably at most, occur in the 37 (or 32) names of the ostraca. The presence of *Ba'al* names in the ostraca was due to the continuous operation of causes that created a similar group of names in the Davidic period.

Recent Archaeology and the Old Testament.—In *Bibl. World*, XLV, 1915, pp. 10-16, 135-145, 202-210, 288-298, 353-361; XLVI, 1916, pp. 25-32, 82-89, 173-180, L. B. PATON discusses the bearing of recent archaeological discoveries on the Pentateuchal history under the following heads: (1) The Creation, (2) The Origin of Man, (3) The Flood, (4) The Origin of Races, (5) The Sumerians (5000-3500 B.C.), (6) The Primitive Semites (5000-3500 B.C.), (7) The Akkadian Period (3500-2500 B.C.), (8) The Amorite Period (2500-1580 B.C.), (9) The Historical Character of Abraham, (10) Isaac, Jacob, Esau, and the Sons of Jacob, (11) The Egyptian Period (1580-1187 B.C.), (12) The Conquest of Canaan. In *Pilgrim Teacher*, 1915, pp. 77-79 (4 figs.), 162-165 (3 figs.), 235-238 (3 figs.), 293-295 (2 figs.), 385-388 (4 figs.), 447-450 (4 figs.), 520-522 (fig.), 601-603 (3 figs.), 819-822 (3 figs.), he discusses the bearing of archaeology on the later books of the Old Testament under the following heads: (1) Canaan Before the Hebrew Conquest, (2) The Religion of the Canaanites, (3) Remains of the Early Hebrew Period, (4) Jerusalem in the Time of David, (5) The Earliest Hebrew Inscriptions, (6) Jerusalem in the Time of Solomon, (7) Archaeological Remains of the Period 960-843 B.C., (8) Assyrian Information in Regard to the Times of Elijah and Elisha (854-806 B.C.), (9) The Fall of the Kingdom of Israel.

Samaritan Phylacteries and Amulets.—In *S. Bibl. Arch.* XXXVII, 1915, pp. 96-107, 135-144, 163-174, M. GASTER describes sixteen phylacteries. Fourteen are originals, and two are photographic facsimiles of originals. Of these texts eight belong to the first group. These phylacteries (or Shem), with one exception which is written on paper, consist of one goat skin cut into a square measuring from top to bottom between 17 inches and 22 inches. All these texts are anonymous. Neither the name of the writer, nor that of him for whose benefit the amulet was written, is mentioned. It can be worn by anyone who happens to possess it or to whom it may have been lent for the purpose of averting evil or healing the sickness from which he suffers. The second group consists of scrolls. The text is not written on a square piece, but in one long column.

The Lord of Hosts.—In *Exp. Times*, XXVI, 1915, pp. 457-461, M. GASTER maintains that, whatever the original meaning of the expression "Lord of Hosts" may have been, it was lost when applied to God, when it became a stereotyped name; and just as little as one would think of translating *Yahweh Elohim* "the Lord of Gods," so little can we translate *Yahweh Sabaoth* "The

Lord of Hosts." It must be either "The Lord, (The) Host(s)," if it is to be translated at all, or the "Lord who is Sabaoth," or rather, following the unbroken tradition of the ages and the old versions—"The Lord Sabaoth."

The Origin of the Races.—In *Exp. Times*, XXVI, 1915, pp. 558-560 and XXVII, 1915, pp. 136-138, A. H. SAYCE discusses the list of the nations in Genesis IX and X in the light of the most recent archaeological discoveries.

The Princeton Expedition to Syria.—In *Ancient Architecture in Syria*, Section A, Part 5, Professor HOWARD CROSBY BUTLER continues the publication of the results obtained in the field of architecture by the Princeton expeditions to Syria by describing the remains in the Haurân plain and Djebel Haurân. Plans and descriptions of buildings on twenty-seven different sites in these districts are given, as well as reproductions of architectural details, etc. In Division III, Section A, Part 5, Professors ENNO LITTMANN, DAVID MAGIE, JR., and DUANE REED STUART publish 178 inscriptions, two Latin and the rest Greek, from the same region. [*Publications of the Princeton University Archaeological Expeditions to Syria in 1904-1905 and 1909*. Division II, *Ancient Architecture in Syria*. By HOWARD CROSBY BUTLER. Section A, Southern Syria, Part 5, Haurân Plain and Djebel Haurân. Leyden, 1915, Late E. J. Brill. Pp. 297-363; pls. 19-27; figs. 268-322. Division III, *Greek and Latin Inscriptions in Syria*. By ENNO LITTMANN, DAVID MAGIE, JR. and DUANE REED STUART. Pp. 271-358.]

A Coin of Tyre, not Heliopolis.—In an article on the history of the Syrian Heliopolis (*Rhein. Mus.* LXIX, 1914, p. 157), H. WINNEFELD described a coin (of the Löbbecke collection, now in the Berlin Cabinet) with the bust of Salomina on the obverse, and on the reverse a round or polygonal building adorned with columns and rich plastic ornament. This building he was led to ascribe to Baalbek by the reading by Löbbecke of the much worn inscription on the reverse. No other similar type was known. Another coin (of Gallienus) bearing it has now come into the Berlin Cabinet from the collection of Th. Prowe in Moscow. On this coin the inscription COL TVR is legible, and a cuttlefish is plainly depicted in the field. The inscription on the other coin can now be read with the help of this, and even traces of the cuttlefish detected. Both coins are plainly of Tyre. The building represented was perhaps some temporary structure erected for a special purpose. (*Z. Num.* XXXII, 1915, pp. 152-153; 2 figs.)

Coins of Nero from Syria.—A group of Greek silver coins of Nero ascribed by Vaillant and others to Ephesus is credited by KURT REGLING to Syria on the ground of comparison in style and forms of letters with the silver eagle-tetradrachms of Nero. (*Z. Num.* XXXII, 1915, pp. 146-151; cuts.)

ASIA MINOR

The Twelve Gods in Lycia.—The *δώδεκα θεοί*, appearing upon a number of Lycian reliefs, have been made the subject of a memoir by O. Weinreich which is summarized and criticized by A. REINACH in *R. Ép.* II, 1914, pp. 316-319.

GREECE

SCULPTURE

A Minoan Bronze at Leyden.—The bronze statuette of a standing male figure (Fig. 1), which was found in the neighborhood of Phaestus, Crete, and has been acquired by the Royal Museum of Antiquities at Leyden, is published by G. VAN HOORN in *J. H. S.* XXXV, 1915, pp. 65-73 (pl.; 7 figs.). The hands and the legs below the knees are missing, and the forearms, which are raised in front of the breast bringing the wrists close to the mouth, have probably been bent in from some less constrained position. The present height is 14 cm. This is apparently an example in the round of the vase-bearer, already known in fresco and relief, and it has the familiar broad shoulders, narrow waist and sharp backward bend of the body, which characterize the Minoan figures. The costume consists of a round flat hat worn on the back of the head,

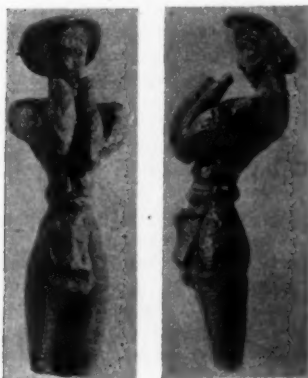


FIGURE 1.—MINOAN BRONZE
STATUETTE

and a variety of the apron-tunic with thickly rolled girdle. The front lapet of the tunic is doubled over so that both edges lie toward the right and the long tapering back part is cut in a shape resembling the tail of a modern dress coat. It may well represent a leather garment.

Calamis.—In *Jb. Arch. I.* XXX, 1915, pp. 74-95 (14 figs.), J. SIX, beginning with the bronze charioteer of Delphi, discusses the style, connections, works and influence of the sculptor Calamis. The predecessor of Polygnotus and Phidias and primarily an artist in bronze, perhaps of Boeotian birth, working in the years ca. 490-450, an innovator for his time, he strove to express moments of exaltation, an inner tension of feeling, with forms rather

superficial than based consciously on the skeleton. The charioteer, to be dated ca. 474, in his expression, in the attitude, resting firmly on both feet, the columnar, fluted drapery, and the degree of naturalism in the folds above the girdle, shows the characteristics by which other works may be assigned to Calamis or his circle. Such are the Hestia; the Herculaneum Dancers; the Ludovisi-Boston triple reliefs from an altar of Aphrodite; the Ludovisi colossal head of a goddess from an acrolithic statue, which appears to belong with this altar; the Hermes Criophorus of the Barracco collection; the Aphrodite of Callias (ca. 450); the Nike Apteros of the Acropolis (Sosandra); the Mourning Athena of the Acropolis; and especially the mourning figure known as Penelope, in which there is, perhaps, hidden an ἀλγουμενή, the origin of the not very plausible reading "Alcumena" for Alcmena, in Pliny *N. H.* XXXIV, 71. This work seems to justify the comparison of Calamis with the orator Lysias, made by Dionysius of Halicarnassus (*De Isocr.* III, 522).

Pythagoras and the Charioteer at Delphi.—In *Ausonia*, VIII, 1913 (pub-

lished 1915), pp. 35-43 (7 figs.), F. VON DUHN points out that the terra-cottas found in such large numbers at Locri Epizephyrii and elsewhere in southern Italy reveal a local art which has affinities with Ionic art. Pythagoras, famous for his sculpture in bronze, was a native of Rhegium and a pupil of Clearchus, also a native of that town. The head of a terra-cotta figurine of this school in the museum at Reggio bears a striking resemblance to the head of the charioteer at Delphi, which, he thinks, may be safely claimed as an original work of Pythagoras. The group was probably ordered by Anaxilas (the last part of whose name he thinks may be made out in the erased inscription), and after his death dedicated by Polyzelus. It was probably thrown down and buried before the time of Pausanias.

The Bronze Dancers of Herculaneum.—In *Ausonia*, VIII, 1913 (published 1915), pp. 179-190 (6 figs.), L. SAVIGNONI argues that the six bronze statues of women from Herculaneum and now in the Naples museum fall into two groups. The woman fastening her chiton and the little figure are copies of statues dedicated in some temple; the four others are represented as taking part in a choral dance in honor of some divinity. The original group probably consisted of more than four figures.

The Athena and Marsyas of Myron.—In *Jb. Kl. Alt.* XXXV, 1915, pp. 8-15 (7 figs.), P. J. MEIER answers criticisms of his restoration of Myron's group of Athena and Marsyas. A new examination of the Athena in Frankfurt proves that the right hand and arm of that statue belong together, and that Dragendorff's scepticism was not justified. Sieveking's restoration of the Athena with a flute in each hand is unsatisfactory. Meier examines in some detail Bulle's restoration and objects particularly to the position which he gives to Athena's lance. He thinks his own restoration on the whole the most satisfactory.

Atalanta.—In *Ausonia*, VIII, 1913 (published 1915), pp. 1-6 (fig.), A. DELLA SETA argues that the statue in the Vatican of a young girl in a very short chiton apparently in the act of stopping in the midst of a race represents Atalanta. He thinks that it is either a youthful work of Myron, or by one of his immediate predecessors.

Polygnotus and the Parthenon Pediments.—In *Jb. Arch.* I. XXX, 1915, pp. 95-126 (pls.; 13 figs.), B. SCHROEDER publishes a study of draperies, especially the chiton, in the fifth century sculptures that are associated with the Parthenon, with reference to the technique in which the various styles of treatment originated, whether in bronze, marble, soft modelling, or drawing and painting. Viewed largely by this test, the sculptures of the temple itself fall into five groups, the north metopes, the south metopes, the east and west metopes, the frieze, and the pediments, which, perhaps, correspond to an assignment of the different parts of this great work to the different studios or schools of sculpture then existing at Athens. Each division would thus show the work of various hands under one direction, and have a certain unity and treatment of its own, as appears to be the case. The pediments were undoubtedly executed under the influence, either direct or indirect, of Polygnotus, and the artificial perfection of the draperies is in a style originating in painting on a grand scale. Various indications point to Thasos as the home of a school of sculpture of this sort. A female head, of Thasian marble, in Berlin, gives a suggestion of what the missing pediment heads may have been. A male torso of Dionysus from Asia Minor, also in Berlin, wears a short, clinging chiton, and is to be classed here.

A Lysippian Eros from Myndus.—The notice in Cedrenus of the famous statues in the Lauseion at Constantinople in the fifth century A.D. is a mixture of truth and nonsense which can to some extent be distinguished. A slight emendation, the transfer of a few words to another part of a sentence, removes an obvious blunder and gives us as a work of Lysippus, the winged Eros with bow brought from Myndus in Caria, Ἐρως τόξον ἔχων πτερωτός Μυνδίου ἀφικόμενος. The Eros drawing a bow, which exists in some thirty replicas and is of the time of Lysippus, is usually identified with his Eros seen by Pausanias (IX, 27, 3) at Thespieae; but as nothing is known of the composition of that work, while the statue from Myndus had the bow, an attribute rare in the fourth century, it is at least possible that the latter is the original of this evidently famous type. It may serve with the Apoxyomenus of the



FIGURE 2.—SATYR AND DIONYSUS; FRAGMENTARY GROUP

Vatican as basis for the study of the later art of Lysippus. (A. FRICKENHAUS, *Jb. Arch. I. XXX*, 1915, pp. 127-129.)

Large Bronze Statues.—In *R. Arch.*, fifth series, II, 1915, pp. 97-113, A. DE RIDDER tries to estimate the cost of large bronze statues in antiquity from literary sources and inscriptions. In the fourth century B.C. an ionic statue cost, according to the Cynic Diogenes (Frag. 105, Mullach; Diog. Laert. VI, 35), 30 minae, and this agrees with the prices given in two inscriptions (*I.G. II*, p. 251, *Class. Rev. VII*, 1894, p. 217). The cost of the metal used, of the preparation and the labor, is estimated. The Colossus of Rhodes, 72 ells in height, is said by Pliny (*XXXIV*, 41) to have cost 300 talents. The data give little information concerning the part of the expense which made the profit of the artist.

The Colossal Statue from Cyrene.—In *C. R. Acad. Insc.* 1915, p. 151, S. REINACH points out that the colossal statue recently found by the Italians at Cyrene does not represent Alexander, but a Dioscurus in the guise of an Alexander. It dates from the time of the Antonines, and has nothing to do with Lysippus.

The Faulty Colossus.—The passage in *Περὶ Τῶν 36, ὁ κολοσσὸς δ' ἡμαρτημένος οὐ κρείττων ἢ ὁ Πολυκλείτου δορυφόρος*, contains some error. The reference cannot be to the Zeus of Phidias, but must be to the Colossus of Rhodes. (PAUL WOLTERS, 'Archäologische Bemerkungen. II,' *Sitzb. Mün. Akad.* 1915, iii, pp. 1-10.)

A Satyr and Dionysus.—In *Ausonia*, VIII, 1913 (published in 1915), pp. 90-103 (pl.; 7 figs.), A. MINTO publishes the fragment of a group representing a youthful satyr with the boy Dionysus on his shoulders (Fig. 2) recently acquired by the Archaeological Museum in Florence. It once belonged to the Strozzi collection. The head and chest of the satyr and the torso of the Dionysus are alone preserved. Four other copies of the group are known. It dates from early Hellenistic times.

A Nereid from Ostia.—In *Ausonia*, VIII, 1913 (published 1915), pp. 191-200 (6 figs.), G. Q. GIGLIOTTI discusses the torso of a Nereid found at Ostia in 1913 (*Not. Scav.* 1913, p. 312). He connects it with the Borghese Amazon, the Maenad in Dresden, and the small group to which they belong, and argues that it is a Hellenistic work inspired by Scopas.

The Venus of the Ariana Collection.—In *R. Arch.*, fifth series, I, 1915, p. 336 (2 figs.), S. REINACH publishes two views of the head in the Ariana collection at Geneva, which is one of the very few replicas of the head of the Venus de Medici. The bronze in Munich is now regarded as modern. The head in the Ariana collection is of fine artistic quality, but doubt is expressed concerning its antiquity.

VASES AND PAINTING

Euphronius and his Colleagues.—A summing up and solution of the question, now more than twenty years old, of the career of Euphronius, the vase painter and potter, with his signatures *ἔγραψεν* and *ἐποίησεν*, are presented by E. RADFORD in *J. H.S.* XXXV, 1915, pp. 107-139 (pl.; 8 figs.). It appears that he began in the early years of the fifth century, 500-480 B.C., by painting vases for other potters, Chachrylion, Sosias, Euthymides, and although somewhat influenced at first by the last named, he displayed at once the originality, imagination, power of draughtsmanship and surety of pose which made him eventually the greatest of the Greek vase painters. Later when he established his own atelier, other men more or less under his influence painted his vases, and five different hands, some known by name, some only by their style, can be identified. One of the *ἔγραψεν* vases, the psykter at Petrograd, has four beautiful nude female figures, a feature very uncommon at this period, and one of these apparently served as model for the nude hetaera of the Ludovisi throne, the only known instance of the nude female figure in classical sculpture before the fourth century. The artists of the *ἐποίησεν* group included a master of great force and originality who also painted cups for the potter Brygus. Onesimus was one of the weakest of them. The whole period covered by the work of Euphronius is fairly accurately fixed at about forty

years, by the names of favorites employed—Leagrus, Panaitius, Lycus and Glaucon—of whom Leagrus was probably the strategus of that name who was killed in 467, and Glaucon, his son, commander in 433. The career of Euphronius falls entirely within the red-figure period, possibly with a polychrome or white-ground venture at the end.

Scythes and Epilycus.—A brief discussion by E. BUSCHOR of the group of vases bearing the name of Scythes as painter and the *καλός* name of Epilycus, is given in *Jb. Arch. I.* XXX, 1915, pp. 36–40 (2 figs.). He maintains that the few cases in which the relation has been supposed to be reversed, Epilycus

being the potter and Scythes the one honored, are in reality similar to the others, the fragmentary inscriptions being capable of the usual arrangement and interpretation.

The Chigi Vase.—In *Ausonia*, VIII, 1913 (published 1915), pp. 104–144 (4 pls.; 3 figs.), G. CULTRERA discusses the so-called "Chigi vase" (Fig. 3) found at Monte Acuto and now in the Museo di Villa Giulia. It is an oenochoe, 28.5 cm. high, with three bands of painted decoration. In the middle zone, beneath the handle, is the judgment of Paris (with inscriptions); to the right of this are horsemen and a chariot, and to the left a lion hunt. Between these two scenes are sphinxes. In the zone above is a combat, and in the zone below running animals.



FIGURE 3.—THE CHIGI VASE

The writer believes the vase to be the product of Ionic and proto-Attic art, and to date from the first part of the sixth century B.C.

The Athenian Necropolis.—In *Berl. Phil. W.* November 6, 1915, cols. 1422–1424, P. WOLTERS calls attention to the fact that the vase fragments upon which he identified a picture of the Athenian necropolis (see *Sitz. Mün. Akad.* 1913, v.; *A.J.A.* 1914, p. 229) are now in the collection of Paul Arndt. They probably once formed part of a *loutrophoros*. The inscription on the third stele is to be read *ἐξ ἐλευθερίας*.

Peleus on Pelion.—In *Sitzb. Mün. Akad.* 1915, iii ('Archäologische Bemerkungen'), p. 10, H. SCHWABE discusses the vase fragments upon which he identified a picture of the Athenian necropolis.

kungen, II'), pp. 10-20, PAUL WOLTERS discusses the scene represented on an Attic black-figured amphora with cover found in a tomb at Lacetina, west of Ischia di Castro (see *Not. Scav.* 1913, pp. 363 ff.). He explains it as Peleus whom Acastus wished to destroy on Mount Pelion. The same myth appears on a vase in the possession of Mrs. Mond (*Burlington Fine Arts Club, Exhibition of Ancient Greek Art*, 1904, pl. 98, p. 115, No. 62). The variants of the myth are discussed.

Painted Reliefs.—In *R. Ép.* II, 1914, pp. 248-266, A. REINACH discusses the encaustic painting of ancient reliefs, both in the Greek world and in the West, partly from the evidence of existing traces of color and partly from literary and epigraphical data. A marble plaque from Thasos with a relief of Cybele and other divinities is here published for the first time.

INSCRIPTIONS

The Linear Script of Crete.—A catalogue of the signs of the A and B systems of Cretan linear writing, with a brief discussion and a comparison with the Cypriote syllabary, is published by J. SUNDWALL in *Jb. Arch.* I. XXX, 1915, pp. 41-64. He enumerates 77 signs of the A script and 60 of B, of which some 45 are common to both. Many of the signs of A, both of those peculiar to A and those common to A and B, are identical with signs in the earlier hieroglyphic-pictographic system of writing. He finds that the B system is a local Cnossian modification of the A system, made in the interest of clearness and method, at the time of the building of the later palace at Cnossus, and may indicate a dynastic influence. The Cypriote writing is also derived from A, and this indicates that the signs of A are also syllabic. The brief inscriptions on the containers of imported wares at Tiryns are likewise from Crete and represent some form of the A system.

Notes on the Lycian Alphabet.—In *J.H.S.* XXXV, 1915, pp. 100-106, W. ARKWRIGHT presents some notes on the value of certain Lycian characters and on the relation between the dialects known as Lycian I and Lycian II. He now believes that the sign α represents a sibilant, best rendered in Greek by ζ , and that the sound of θ did not occur in genuine Lycian words or names. The interchange of b and m seems proved. The s of Lycian II probably represents an older form than the corresponding h of Lycian I, in the genitive ending, etc.; hence the Greek place-names like *Τελεμισός* and *Τυβερμισός*, representing native *telebehi* and *tuminehi*, and eventually superseding them, were derived from the earlier forms with s .

Argive Inscriptions.—In *Mnemosyne*, XLII, 1914, pp. 330-353; XLIII, 1915, pp. 365-384; XLIV, 1916, pp. 46-71, W. VOLLGRAFF discusses various Argive inscriptions.

Greek Literature in Inscriptions.—In *Classical Weekly*, November 13, 1915, pp. 41-44, K. K. SMITH collects the quotations from Greek literature in inscriptions discovered in recent years. They are: *Iliad*, II, 204-205, II, 412, V, 31, XV, 187-191, XV, 187-193; *Odyssey*, IX, 528; Euripides, *Phoenissae*, 107-118, 128-139, and an adaptation of ll. 3 ff.; a line of the epitaph of the Athenians who died at Marathon by Simonides, quoted by Demosthenes (*de Corona*, 289); two words of the oracle in Lucian, *Alex.* 36; parts of fifty-six lines of maxims of Sosiades quoted in part by Stobaeus; the great inscription of Lindus by Timachidas with references to twenty-three authors; an

epigram of the rhetorician Aristeides; and two epigrams of Antiphon, a poet of the new comedy.

A Decree of the Thiasus of Bendis.—In 'Αρχ. 'Εφ. 1915, pp. 1-4 (fig.), S. N. DRAGOMES publishes a perfectly preserved inscription of 276-5 B.C. found near the site of the sanctuary of Artemis, close to the ancient city of Salamis, and recording a decree of the Association of Bendis in honor of its officers. By the help of this decree several improvements are suggested in the readings proposed for *I. G.* II, 620, a decree of the same association, found in the same place by Fourmont, and later reviewed by Wilhelm, *Jh. Oest. Arch. I.* 1902. Though separated by about thirty years, the two executive boards have two, perhaps three, members in common.

Thessalian Inscriptions.—In 'Αρχ. 'Εφ. 1915, pp. 8-27 (22 figs.), A. S. ANVANITOPOULOS continues his publication of Thessalian inscriptions (cf. *ibid.* 1914, pp. 167-184, etc.), with twenty-eight more inscriptions from Gonnus and Gonnokondylos. These include awards of *prozenia*, certification of boundaries (?), manumission, votive inscriptions, and epitaphs, one of the latter recording the exploits of a certain Damocrates in the service of his country. Omega in the form Ω is found as early as 200 B.C. *Ibid.*, pp. 28-30, the same author publishes an index showing the catalogue numbers of the inscriptions in the museum of Gonnus and the place of publication of each. In *R. Ép.* II, 1914, pp. 221-236, he publishes sixteen inscriptions from Azorus and Doliche, of which the five longest are records of manumissions and the others chiefly sepulchral. In 'Αρχ. 'Εφ. 1915, pp. 74-78 (2 figs.), N. I. GIANNOPOULOS publishes ten inscriptions of Thessaly, including an honorific inscription of the third century B.C., several grave stelae, and a rock-cut inscription of the acropolis of Pharsalus that he does not attempt to transliterate or restore. He also publishes, *ibid.*, p. 78 (fig.), a photograph of the votive inscriptions to Ζεὺς Θαλίος and Ζεὺς Ἀφροῖος which he published *ibid.* 1913, pp. 218, 1 and 219, 4.

Christian Inscriptions of Thessaly.—In 'Αρχ. 'Εφ. 1915, pp. 80-82 (8 figs.), N. I. GIANNOPOULOS publishes seven epitaphs from vaulted Christian tombs and a marker for a harbor mooring at New Anchialus, and also an epitaph from Thebes in Phthiotis bearing the name Πρωβάριος, formed from *πρόβατα* in its New Testament sense.

Boeotian Farmers.—In *R. Ét. Gr.* XXVIII, 1915, pp. 51-54, S. LOURIA undertakes to clear up certain difficulties in an inscription relating to Boeotian farmers, published in *B.C.H.* XXI, p. 553, No. 2.

The Offering to the Eleusinian Goddesses.—In *Berl. Phil. W.* September 25, 1915, cols. 1230-1232, W. BANNIER discusses the Athenian decree relating to the offering of grain to the Eleusinian goddesses (*I.G.* II, 140, ed. min.).

A Bacchic Society.—An inscribed basis of late Roman date, found in the city of Malko-Tirnovo, in the Bulgarian territory of Burgas, is dedicated to Dionysus, θεῷ Διὶ Διονύσω, by the priest of an association of worshippers of the god, a Βακχεῖον. The double name is to be compared with Ζεὺς Βάκχος and Ζεὺς Σαβάζιος. (*G. KAZOROW, Arch. Anz.* 1915, cols. 87-89; fig.).

Inscriptions from Sardis.—In *R. Ép.* II, 1914, pp. 319-322, A. REINACH gives a résumé and criticism of Buckler and Robinson's discussion (*A.J.A.* XVII, pp. 353 ff) of the *Kaueis* inscriptions found at Sardis.

A Grave Inscription from Egyptian Thebes.—In *R. Ét. Gr.* XXVIII, 1915,

pp. 55-57, T. REINACH publishes a Greek grave inscription of the time of Hadrian from Egyptian Thebes. Eleven lines in elegiac verse are preserved.

Epigraphical Notes.—In 'Αρχ. 'Εφ. 1915, pp. 5-8, S. N. DRAGOUMES gives reasons for believing that the list of Athenian archons of 57-6 B.C. which he published *ibid.* 1905, pp. 181-186, the one found by Kastriotēs on the site of the Odeum, *ibid.* 1914, pp. 165 f., and other lists of this kind are, like the Attic inscriptions of Delphi, published by Colin, *B.C.H.* XXX, Nos. 57-61, records of the annual sacred embassy to Delphi, conducted by the nine archons, the Athenian lists having been set up in the Pythium. In 'Αρχ. 'Εφ. 1915, pp. 32 f. and 33f., A. CH. HATZES publishes corrections to eight inscriptions published *ibid.* 1914, *passim*, and four miscellaneous epigraphical notes.

Corrections.—In 'Αρχ. 'Εφ. 1915, p. 94, E. N. PETROULAKIS publishes several corrections to his articles on inscriptions of Genna and of Eleutherna (Crete), *ibid.* 1914, pp. 222-229.

COINS

Coinage of Croton.—Barclay V. Head, describing in his *Historia Numorum* a certain class of silver staters belonging to the years 330-299 B.C., was of the opinion that no legal reduction of weight took place at Croton as it did about 281 B.C. at other cities of Magna Graecia, and that no staters were struck at Croton after 299. S. W. GROSE now publishes (*Num. Chron.* 1915, pp. 179-191; pl.) a number of late Crotonian coins of an obverse type (eagle with head turned back, standing on a thunderbolt) not noted by Head; and by statistics of weight also shows reason for revising the earlier conclusions. He also describes a few other coins of Magna Graecia and Sicily which lead toward interesting inferences.

Coinage of Cyrene.—In *Num. Chron.* 1915, pp. 137-178, E. S. G. ROBINSON continues his detailed investigation of the coinage of the Cyrenaica, treating here of the gold issues with the small class of accompanying silver, the silver coinage of Attic weight, and the later issues of Barce and of Euesperides.

An Unedited Gold Stater of Lampsacus.—An unedited gold stater, briefly mentioned by AGNES BALDWIN in her article on the gold coinage of Lampsacus in the *Jour. Intern. de Num.*, 1902, p. 8, is now in the Löbbecke collection of the Berlin Cabinet, and is fully described by her in *Z. Num.* XXXII, 1915, pp. 1-14 (pl.). Contrary to the usually accepted dating for the series of gold staters to which this coin belongs, she would assign the series to the period 387-ca. 330 B.C.

GENERAL AND MISCELLANEOUS

The Labyrinth.—In *R. Arch.*, fifth series, II, 1915, pp. 114-125, Captain ROBERT DE LAUNAY, who was killed in battle, May 9, 1915, discusses the labyrinth. He finds that the circular walls uncovered at Tiryns (*Ath. Mitt.* XXXVII, 1913, pp. 78 ff.; *Arch. Anz.* 1913, pp. 110 ff.) are remains of a labyrinth; the foundations of the tholos at Epidauros belong to the same category, as do also megalithic circles in various parts of the world. From the labyrinth the swastika, the cross, the circle with a cross or a line, or even a dot, inscribed, are derived. Originally the labyrinth had a religious significance, symbolizing the sun, or rather the sojourn of the sun in its winter prison, which brings it into connection with such myths as those of Heracles, Perseus, Siegfried and others.

On the Development of the Ancient Theatre.—At the January (1915) meeting of the Berlin Archaeological Society, opposing views on the Hellenistic "stage" and the Roman *scenae frons* were set forth by E. Fiechter and W. Doerpfeld in accord with the published work of both. Fiechter regards Vitruvius's treatise as a literary compilation, without technical authority. He considers the remains of third-century theatres with the related vase and wall paintings as best explained by supposing that, with the disappearance of the chorus from the drama, the actors were transferred from the orchestra in front of the proscenium to the narrow platform on top of it, and that this was enlarged by using with it a sort of portico behind the widely spaced pillars into which the scene-wall was here changed, this treatment of the upper part of the scene being the origin of the later *scenae frons*. The type of the Roman theatre building, first seen in Pompey's Theatre at Rome, built in 55 B.C. in modified imitation of the theatre at Mitylene, was a combination of the stage of Italian origin, and the orchestra and cavea, which were the essentials of the eastern theatre. Doerpfeld pointed out the errors of this theory, on technical grounds and those of common sense, reiterating his belief that the human action of the play always took place before the proscenium, which eventually developed into the Roman *scenae frons*, while the upper platform in the Hellenistic theatre was for the divine personages, the wide openings behind it being used when needed for the passage of winged chariots or other apparatus, but ordinarily closed by large wooden doors, for acoustic purposes. (*Arch. Anz.* 1915, cols. 93-105.)

The Madness of the Daughters of Proetus.—In *Ausonia*, VIII, 1913 (published 1915), pp. 145-178 (5 figs.), L. SAVIGNONI discusses the story of the madness of the daughters of Proetus told in the tenth ode of Bacchylides, and the representations of it in ancient art. He can enumerate only a Southern Italian vase in Naples dating from the fourth century B.C.; a cameo in the Bibliothèque Nationale in Paris; and a terra-cotta relief found at Medma and published in *Not. Scav.* 1913, p. 59, figs. 67 and 68.

The Seers of Olympia.—In *Arch. Rel.* XVIII, 1915, pp. 53-115, L. WENIGER discusses the seers of Olympia. A complete list of their names is preserved from the middle of the first century B.C. to 265 A.D.

A Note on the Eleusinian Mysteries.—In *Arch. Rel.* XVIII, 1915, pp. 116-126, A. KÖRTE argues that in the celebration of the Eleusinian mysteries an act was performed symbolizing the rebirth of the initiate.

Herondas and a Prayer for Health and Life.—In Herondas IV, 94, the word *θυσιή* occurs in the sense of a sacred cake. In this connection P. PERDRIZET (*R. Ét. Gr.* XXVII, 1914, pp. 266-280) calls attention to two bronze stamps in the Bibliothèque Nationale and a third in the British Museum inscribed *ζωή θυία*. Furthermore inscriptions from Syria, dating from the fourth century A.D. and later, sometimes begin with the formula *ζωή θυία χαρά* or *ζωή θυία*. These wishes for life, health and happiness are oriental in origin and may be traced back to an early period.

Athena Aethyia.—In *Arch. Rel.* XVIII, 1915, pp. 127-133, A. KROCK argues that Athena Aethyia of Megara was Athena in the guise of a bird, i.e., a theiomorphic form of the goddess, and that this was a stage in the development of the cult.

Notes on the Iphigenia Myth.—In *R. Ét. Gr.* XXVIII, 1915, pp. 1-15, S.

REINACH argues that Iphigenia was an epithet attached to different animals in different places. At Aulis Iphigenia was a sacred doe; among the Taurians she was a heifer and divinity combined. It was only in later times that she became the priestess of Artemis.

Rhesus of Thrace.—Rhesus of Thrace, who appears momentarily with his white horses in the *Doloneia* (*Il. X*, 435), was not a genuine hero of Greek myth or a decayed tribal god, as Rohde has tried to make out; on the contrary his parentage and career were an invention of Euripides, who wrote the play of Rhesus to give a religious sanction to the Amphipolis expedition of the year 437. This is shown, partly on the authority of Cicero, by W. LEAF, *J.H.S.* XXXV, 1915, pp. 1-11.

Two Terra-cotta Lamps from Thessaly.—In *'Αρχ. Έφ.* 1915, pp. 72-74 (4 figs.), N. I. GIANNOPOULOS publishes two terra-cotta lamps of the fourth or third century B.C., decorated with heads of Medusa, one of them very fine. Medusa is represented with abundant wavy locks and a necklace, which suggest her snakes, and two small wings on the top of her head. These heads help to identify heads upon the coins of Larissa and Pherae as heads of Medusa, and not, as is usually supposed, of the nymph Larissa.

The Graeco-Egyptian Portraits.—In *R. Arch.*, fifth series, II, 1915, pp. 1-36 (13 figs.), the treatise on the Graeco-Egyptian portraits by A. REINACH (cf. *A.J.A.* XIX, 1915, p. 182) is continued. The author has been missing since August 30, 1914. The portraits were painted to be exposed in the house and were subsequently added to the sarcophagi. They date chiefly from the first and second centuries A.D. The persons represented are of both sexes, various ages, and many different nationalities.

Mines Operated by the Ancients in Macedonia and Epirus.—To prepare the way for the development of the mineral wealth of the lands recently added to the kingdom of Greece, A. S. GEORGLADES publishes (*'Αρχ. Έφ.* 1915, pp. 88-93), with a commentary, a compilation of the passages in the ancient authors referring to mines of silver, gold, etc., operated in Macedonia and Epirus. A similar chapter on the mines of the islands is to follow.

Demetrias-Pagasae.—In *'Αρχ. Έφ.* 1915, pp. 83 f., N. I. GIANNOPOULOS continues his Demetrias-Pagasae controversy with Arvanitopoulos (cf. *ibid.* 1914, pp. 90-92 and 264-272).

Supplementary Notes.—Apropos of *B.S.A.* XVI, 1909-1910, p. 249 (on modern survivals of the Dionysia in Northern Greece and Macedonia, by Wace), N. I. GIANNOPOULOS explains the word *κουρμενιά* as a disparaging term for "wife," and apropos of *'Αρχ. Έφ.* 1914, pp. 70-84 and 260-263 (on a Christian table top, by Xyngopoulos), he cites other representations of animals in Christian art in Thessaly (*'Αρχ. Έφ.* 1915, p. 79).

Yianetsa.—In *'Αρχ. Έφ.* 1915, pp. 86 f., G. MISTRIOTES again defends his theory of the etymology of the name Yianetsa (cf. *ibid.* 1914, pp. 184 f. and 1913, pp. 20 and 200; *A.J.A.* XIX, 1915, p. 479) against that of G. Hatzedakes.

Parchments of the Parthian Period from Avroman.—Two manuscripts in Greek, of dates several years apart but probably in the first century B.C., which were found in 1909 in a sealed jar in a cave near the village of Avroman, north of the road between Bagdad and Hamadan, are somewhat minutely studied in their historical, chronological, palaeographic and legal aspects, and compared with other analogous documents, by E. H. MINNS (*J.H.S.* XXXV,

1915, pp. 22-65). They record very clumsily the sale of a vineyard, and are in the ancient duplicate form, a first or close version, on the upper part of the sheet, being rolled, tied and sealed, and kept for possible reference in the extreme case of a disagreement about the form or meaning of the contract, and an open version, on the lower part of the same skin, which was not sealed and could easily be consulted. There is no exact counterpart known of the alphabet here found, and the use of Greek at this time in so remote a region is itself of interest. A third manuscript, in Aramaic, which was found with them, is very imperfect and has not yet been deciphered.

ITALY

SCULPTURE

Marbles and Small Bronzes in Syracuse.—In *Ausonia*, VIII, 1913 (published in 1915), pp. 44-75 (pl.; 17 figs.), P. ORSI begins a series of articles on the marbles and small bronzes in the museum at Syracuse. These are unpublished or inadequately published, and date from the seventh to the third century B.C. They reveal a native art gradually coming under the influence of Greek art. In this first paper he discusses 1, a nude bronze ephebus, 20 cm. high, which probably dates from the beginning of the fifth century B.C.; 2, a rude bronze figure of a man, of the same date, of native workmanship influenced by Greek art; 3, a nude man (10.3 cm. high), and a man and a woman (7.4 cm. high) both of bronze and very rude; 4, a marble head of a youth from Megara Hyblaea, dating from the first part of the fifth century and showing the influence of Peloponnesian art; 5, three heads of early fifth century date, one of marble and two of terra-cotta, found at Syracuse; 6, the headless statue of a woman in a long robe, of the same date, present height 76 cm.; 7, a bronze statuette, 7.9 cm. high, of a nude youth seated on a stump in a negligent attitude, with his right hand above his head. This figure shows Praxitelean influence.

The Sculptures of the Sanctuary of Apollo at Pompeii.—In *Sitzb. Mün. Akad.* 1915, iii ('Archäologische Bemerkungen, II'), pp. 20-54 (3 figs.), PAUL WOLTERS discusses the remains of the sculptural adornment of the temple and precinct of Apollo at Pompeii and the confused records of their discovery. Six pedestals for statues stood arranged symmetrically with reference to the entrance of the court. One statue only—a draped herm (Reinach, *Rép.* II, p. 813, 5) was found standing *in situ*. Four other statues belonging to four of the pedestals were found: Apollo, bronze (Reinach, *Rép.* I, p. 247, 8); Artemis, bronze (Reinach, *Rép.* I, p. 306, 4); Venus, marble statuette (Reinach, *Rép.* I, p. 336, 3); Hermaphrodite, marble statuette (Reinach, *Rép.* I, p. 373, 1). A second herm must have balanced the one which was found *in situ*. This draped herm, representing Hermes, is a figure associated with the palaestra; the corresponding figure was probably a herm representing Heracles. Apollo and Artemis were placed symmetrically, leaving Aphrodite and Hermaphrodite as a third pair. Apart from Apollo, only Diana and Venus had altars. Obviously works of sculpture were here brought together for the decoration of the sanctuary. The two herms belong properly in a palaestra, and Aphrodite and Hermaphrodite were probably purely decorative figures.

A Roman Marriage Scene.—A terra-cotta relief of a Roman marriage scene

which was formerly in Rome, perhaps in the Vatican, and has disappeared, is preserved in certain drawings and in a plaster cast (60-52 cm.) at Innsbruck, which is published by L. DURRIGER in *Arch. Anz.* 1915, cols. 89-93 (fig.). It closely resembles a Caeretan relief in the Louvre, and shows the soft modelling characteristic of the Roman terra-cotta reliefs. The veiled bride, with her attendant close behind her, is giving her right hand to the bridegroom while she holds the pomegranate in her left hand under her mantle.

VASES AND PAINTING

Sicilian Pottery.—In *Ausonia*, VIII, 1913 (published 1915), pp. 27-34 (3 figs.), B. PACE identifies as Sicilian pottery a small class of vases found at Centuripe having plastic decorations as well as figures painted upon a white slip. Most of the specimens are preserved in Palermo. In a private collection at Girgenti there are somewhat similar vases with plastic decoration consisting of figures, masks, medallions, etc. All these are Sicilian work of the Hellenistic period.

The Initiation of Dionysus.—Under the title *Dionysos Mystes* (Naples, 1915, 66 pp.; 4 pls.; 28 figs.) G. E. RIZZO reprints from *Memorie delle R. Accademia di Archeologia, Lettere e Belle Arti*, III, 1914, a monograph in which he discusses the sculptures and paintings that portray the infancy and boyhood of Dionysus, and particularly his initiation into the Mysteries. In the second part of the work he points out that in a villa near the Porta d'Ercolano at Pompeii a *triclinium* (7.11 m. by 4.96 m.) was excavated in 1909, and about the walls were found paintings representing women, a small boy and satyrs engaged in various occupations. He shows that these scenes, too, represent the initiation of Dionysus.

INSCRIPTIONS

The Decipherment of Etruscan.—In an article entitled 'Le Déchiffrement des Inscriptions étrusques' (*R. Ép.* II, 1914, pp. 171-220), D. ANZIANI discusses various theories of Etruscan linguistic affinities, refuting especially the Turko-Mongolian theory of Carra de Vaux and the Hungarian-Finnish view of J. Martha, and rejects the comparative or etymological method of decipherment in favor of the method of combination, of the cautious use of which he offers some examples.

The Site of the Horrea Agrippiana.—In *B. Com. Rom.* pp. 24-33, G. S. GRAZIOSI publishes the inscriptions of an altar found *in situ* just below the Clivus Victoriae. The front reads:

//////SALVT · GENIVM · HORREOR
 ////GRIPPIANORVM · NEGOTIANTIB
 L · ARRIVS · HERMES
 C · VARIVS · POLYCARPVS
 C · PACONIVS · CHRYSANTHVS
 IMMVNES S · P · D · D

The right side:

POSIT · DEDIC · V · | DVS IVN ·
 CN · COSSUTIO · SYNTROPHO
 L · MANLIO · PHILADELPHO.

These consuls are unknown. The date of the letters is about 200 A.D. The inscription proves the correctness of the author's identification of the Horrea Agrippiana with a group of ruins under the Clivus Victoriae (cf. *ibid.*, 1911, pp. 158-172).

Notes on the Prefects Urbis Romae.—In *B. Com. Rom.* XLII, 1914, pp. 322-327, LUIGI CANTARELLI adds some new material to the list of the prefects Urbis Romae.

An Inscription from the Esquiline.—In *M&A. Arch. Hist.* XXXIV, 1914, pp. 383-387, L. A. CONSTANS discusses an inscription recently found on the Esquiline (*Not. Scav.* 1913, p. 466), dedicated to a certain freedman, Epaphroditus, whom he identifies with the owner of the horti Epaphroditiani and the procurator a libellis of Nero and Domitian.

A Se, de Se, ex Se.—As in Greek ἀφ' ἑαυτοῦ, ἐξ ἑαυτοῦ, ἐφ' ἑαυτοῦ and δι' ἑαυτοῦ without the addition of αὐτοῦ or μέντοι may be used to mean "of his own accord," etc., so in Latin the same thing may be expressed by a *se*, *de se* and *ex se* without *ipse* or *solus*. In *Berl. Phil. W.*, October 23, 1915, cols. 1359-1360, T. STANGL discusses this usage in connection with *C.I.L.* VI, 2753 and VIII, 11605* and 11605b*.

The Laudatio Funeris in Christian Times.—In *M&A. Arch. Hist.* XXXIV, 1914, pp. 357-368, G. S. GRAZIOSI discusses a Christian inscription of the fifth century, found on the Via Ardeatina (*C.I.L.* VI, 31965). It belonged to the tomb of a certain Claudius Callistus, and illustrates the *laudatio funeris* adapted to Christian usage, of which only one other example is known.

Epigraphic Bulletin.—In their 'Revue des Publications relatives a l'Antiquité romaine' for January-June, 1915 (*R. Arch.*, fifth series, I, 1915, pp. 353-371), R. CAGNAT and M. BESNIER give the text of 73 inscriptions (9 Greek, one bilingual, the rest Latin) and notes on epigraphic publications.

COINS

Dates of First Silver and Gold Coinage in Rome.—Under the leadership of Mommsen most numismatists have held that the Plinian date for the initiation of silver coinage at Rome (269 B.C.) is at variance with the "annalistic tradition," which fixes the date one year later. In *Z. Num.* XXXII, 1915, pp. 15-36, 37-46, OSCAR LEUZE now argues that the latter source has been misinterpreted, and is really in accord throughout with Pliny, so that tradition is unanimous in fixing the date as 269 B.C. With regard to the difficulties in the dating of the first gold coinage Leuze is less positive in affirmation, but holds that there is a very strong probability for so reading and interpreting Pliny as to fix the date given by him as 217 B.C.

Eastern Coinage of the Flavians.—In *R. Ital. Num.* XXVIII, 1915, pp. 139-154 (2 pls.), L. LAFFRANCHI points out that coinage-style includes three particulars: (1) variations in portraiture, which may differ from emission to emission in the same mint; (2) manner in which are treated the lines of the reliefs that form the types of obverse and reverse; (3) lettering, which differs as much from mint to mint as the handwriting of individuals. Applying these tests, he proceeds to classify by mint and emission the coinage issued in the East by the Flavians during the Jewish War.

A Denarius of 69 A.D. from Lugdunum.—A much discussed denarius is

that bearing on the obverse a bust of Gallia with a Gallic trumpet behind it, and the inscription GALLIA, and on the reverse two clasped hands holding two wheat-ears and a standard surmounted by a boar, with the inscription FIDES (Cohen², Galba, No. 361). This coin MARY B. HARRIS (*Z. Num.* XXXII, 1915, pp. 72-78; 2 figs.) would ascribe to the mint at Lugdunum during the first months of 69 A.D., when the Legio I Italica was garrisoning the city. To the same mint and period she would attribute the denarius (Cohen², Galba, No. 358) which shows on the obverse a head of Liberty with diadem and veil, and a wheat-ear in the field, and the inscription LIBERTAS RESTITVTA, and on the reverse a seated figure of Concord holding a caduceus and a standard surmounted by a boar, with the inscription CONCORDIA.

Value of the Victoriate in Asia Minor.—In an article in *Hermes*, XLVII, 1912, p. 151, BRUNO KEIL called attention to the fact that a fragmentary inscription from Magnesia gave testimony to the currency of the victoriate-reckoning in Asia Minor in the second century after Christ. The value of the victoriate in that region and period he was disposed to fix as half the denarius. In *Z. Num.* XXXII, 1915, pp. 47-71, he substantiates by argument this determination, and also points out the reasons for so late a survival of that form of reckoning.

GENERAL AND MISCELLANEOUS

Early Remains in Apulia.—In *Jb. Kl. Alt.* XXXV, 1915, pp. 425-439 (fig.), H. PHILIP discusses the early remains found in Apulia, especially those of Tarentum, Molfetta and Matera, and the evidence which they furnish as to the early inhabitants of this part of Italy.

Villas in the Alban Hills before Domitian.—In *B. Com. Rom.* XLII, 1914, pp. 251-316 (2 pls.), G. LUGLI treats of the ancient villas on the Alban hills before the time of Domitian. Seven republican villas are known only from references in the literature; two, those of Clodius and of Pompey, have also been identified with existing ruins; three groups of ruins cannot be assigned to any definite names; two estates of a later time, belonging to Seneca and to the emperor Tiberius respectively, to which we have literary references, cannot be located.

The Changes in the Vicinity of the Esquiline.—*B. Com. Rom.* XLII, 1914, pp. 117-175, GIOVANNI PINZA, in an article called 'La vicenda della Zona Esquilina fino ai tempi di Augusto,' coördinates and arranges the widely scattered material on the changes in the vicinity of the Esquiline to the time of Augustus.

Notes on the Monte Testaccio.—In *B. Com. Rom.* XLII, 1914, pp. 241-250 (2 pls.), RODOLFO LANCIANI takes up a number of questions connected with the mediaeval and modern history of the Monte Testaccio.

A Manuscript on the Topography of Rome.—In *B. Com. Rom.* XLII, 1914, pp. 41-116 (2 pls.), MARIA MARCHETTI publishes and discusses an unedited sixteenth century manuscript on the topography of Rome. "The manuscript does not offer a contribution of new ideas to the history of topographical studies; it offers only a synthetic prospect of those which the Renaissance had for the larger part inherited from the humanists." There is a full discussion of the points on which modern students differ from those of the Renaissance.

The Topography of Rome in the Middle Ages.—In *Mé. Arch. Hist.* XXXIV, 1914, pp. 307–356, and XXXV, 1915, pp. 3–13, L. DUCHESNE, under the title of 'Vaticana,' continues the studies begun *ibid.* XXII, 1902, pp. 3–22. In the first of these two articles he discusses the early administration of the basilica of St. Peter, describes the monasteries, deaconries and *schola peregrinorum* that were immediately connected with it, and the *domus Aguliae*, or palace near the obelisk occupied by the papal court when celebrating their vigils in St. Peter's. *Septimianum* he explains as a name applied to the right bank of the Tiber from the wall of Aurelian to the Vatican quarter, and formed after the analogy of *Vaticanum*, *Ianiculum*. The location of the *Mica Aurea* of region XIV near S. Cosimato is supported and the identification, hitherto accepted, of S. Giovanni in Mica Aurea and S. Giovanni della Malva, is shown to be erroneous. In the second paper, he deals with the actual tomb of St. Peter beneath the *confessio*.

The Lamps of the Hypogeum of the Volumni near Perugia.—In *Boll. Arte*, IX, 1915, pp. 161–164 (6 figs.), D. VIVIANI gives a reconstruction of the hanging lamps of the hypogeum of the Volumni near Perugia. Instead of being suspended by winged genii, Lares or Penates, as heretofore supposed, the genii really have swans behind them. Apollo is thus represented in the aspect of singer. With this interpretation of the lamp figures as Apollo the other decorations of the tomb, the sun disks, the dolphins, the lyre player, the shepherd, and the sacred owl, become of clear significance, for all are connected with the Apollo cycle. *Ibid.* pp. 245–248, G. BENDINELLI points out that practically the same reconstruction of the lamps was made at the time of discovery in 1840 by G. B. Vermiglioli, who did not, however, identify the genii as Apollo, and with good reason, for the swan does not necessarily imply Apollo and the winged type of figure certainly does not. Moreover the so-called sun disk is an ordinary shield with Medusa head and the other symbols mentioned are not peculiar to the god Apollo.

The Porta Venere and Torri di Properzio at Spello.—In *Boll. Arte*, IX, 1915, pp. 301–304 (4 figs.), D. VIVIANI discusses briefly the Porta Venere and Torri di Properzio at Spello, Umbria. Recent investigation has revealed a Roman road here and has shown that the gate, towers, and adjoining wall are all Roman of the end of the last century B.C.

Roman Malta.—In *Journal of Roman Studies*, V, 1915, pp. 23–79 (3 pls.; 34 figs.), T. ASHBY discusses Roman Malta, its history and remains.

Hyginus and the Plan of the Roman Castella.—Some misunderstandings in v. Domaszewski's comparison of the *pedatura* (spacing) inscriptions of the Roman camp at Zugmantel and in other published studies of similar matters are pointed out by J. H. HOLWERDA in *Arch. Anz.* 1915, cols. 59–86 (7 plans). If such facts are borne in mind as that the space to be allowed for walls differs according as the building is of stone or wood; that cavalry quarters must include room for the horses; that draught animals would not be kept in the barracks of a permanent or garrison camp, while in a bivouac or night encampment they must be on the spot ready for immediate use; that in garrison the centurions and petty officers had their own houses in front of the long buildings in which their companies lived, but in the marching camps were quartered among the men; that the number of men in a century of legionaries differed from a cavalry century, and the latter was smaller if from a *cohors*

quingenaria than if from a *cohors milliaria*—it will be seen that Hyginus's figures are generally applicable and that it is possible to fix with some accuracy the number and character of the troops and the positions occupied by each, in any camp in which the outlines of the soldiers' quarters can be traced. Arentsburg, near the Hague, Novaesium (Neuss), and Gellygaer in Scotland are cited in illustration.

The Date of the Arch of Titus.—The date of erection of the Arch of Titus is believed by D. McFAYDEN (*Cl. J.* XI, 1915, pp. 131-141) to have been, not immediately after his death, but rather after that of Domitian, as part of the revulsion that took place against Domitian's memory and a consequent glorification of that of Titus.

The Origin of the Roman Mosaic.—In *Boll. Arte*, VIII, 1914, pp. 273-277 (colored pl.; 5 figs.), C. RICCI suggests that the idea of floor mosaics so common among the Romans was derived, though perhaps not directly, from the glazed brick walls of Persia.

A Roman Helmet from Holland.—In *Journal of Roman Studies*, V, 1915, pp. 81-86 (3 pls.; 2 figs.), J. CURLE discusses a Roman helmet found in the Waal below Nijmegen, Holland. It consists of a head-piece with vizor mask surmounted by a diadem. The portion covering the head is of iron; the mask and diadem are of bronze or brass. Across the right cheek is scratched MARCIANUS. It is a provincial helmet and may date from the first century B.C. There were found with it two bronze cheek-pieces overlaid with silver which belonged to a helmet of a different pattern, and several melon-shaped blue glass beads.

The Neapolitan Phratry.—G. DE SANCTIS offers (*R. Ép.* II, 1914, pp. 306-309) an explanation of a Greek inscription dealing with a Neapolitan phratry published by A. Majuri in *Studi Romani*, I, pp. 21 ff.

Curatores Viarum.—In *R. Ép.* II, 1914, pp. 237-247, M. RAT and J. BAYET continue their study of the *curatores viarum*, treating in particular the seven cases known of *curatores* of the Appian Way, whose office was one of the most important of the charges assigned to *praetorii*.

The Lex Rubria.—M. BESNIER (*R. Ép.* II, 1914, pp. 309-311) summarizes the view of J. M. Nap (*Themis*, 1913, No. 2; 1914, No. 1) that the so-called *Lex Rubria de Gallia Cisalpina* (*C.I.L.* I, 205) dates not from 49, as Mommsen supposed, but from about 81 B.C. (or at least between 86 and 81).

Roman Cursive Writing.—In a book entitled *Roman Cursive Writing*, HENRY BARTLETT VAN HOESSEN gives a brief general introduction, a description of Pompeian graffiti, early lead tablets, Pompeian wax tablets, Dacian and Egyptian wax tablets, and a detailed description of 141 ostraca and papyri and their alphabets, followed by a summary history of the Roman cursive alphabet from its origin to the time of its development into the "national hands," a partial list of Greek documents containing Latin subscripts, a bibliography, and a brief description of abbreviations in Latin papyri. Eighteen plates illustrate the alphabets of individual papyri and ten tables exhibit the development of the cursive script. [HENRY BARTLETT VAN HOESSEN, *Roman Cursive Writing*. Princeton, 1915, Princeton University Press. viii, 268 pp.; 18 pls.; 10 tables. 8 vo. \$2 net.]

The Volcanalia.—In *B. Com. Rom.* XLII, 1914, pp. 176-195, TINA CAMPANILE discusses the sacrifice of fish to Vulcan, the identity of the gods honored

together with Vulcan, the sacrifice of a red calf to Vulcan, the date of the institution of the *Iudi Vulcanalici*, and other questions connected with the Volcanalia.

SPAIN

The Antiquities at the Palace of Cerralbo.—In *Boletín de la Sociedad Española de Excursiones*, XXIII, 1915, pp. 225-231 (2 pls.), is given an account of a visit to the palace of Cerralbo and a general description of the antiquities preserved there.

FRANCE

The Menhirs of Ile d'Yeu.—In *L'Homme préhistorique*, II, 1914, pp. 334-343 (4 figs.), M. BAUDOUIN discusses the menhirs of Ile d'Yeu (Vendée).

The Feet on the Dolmen of Petit-Mont.—In *L'Homme préhistorique*, II, 1914, pp. 257-275 (5 figs.); 313-319 (3 figs.), M. BAUDOUIN publishes a study of the relief representing a pair of feet cut on the dolmen of Petit-Mont at Arzon (Morbihan). It dates from the period of polished stone.

An Unexplained Group from Nérès.—In *R. Arch.*, fifth series, II, 1915, pp. 155-164 (2 figs.), S. REINACH proposes an explanation for a fragmentary group of sandstone, which represents a mare treading upon a child. The group (Reinach, *Répertoire*, I, p. 268, 5; Espérandieu, *Recueil*, II, No. 1568), which is now at Saint Germain, came from Nérès. This place possesses mineral springs which were visited in antiquity, as in modern times, on account of their healing properties. The explanation offered is this: Epona, the horse-goddess, was regarded as the deity of the springs, and by placing her foot on the child she performs a miracle of healing. The group may represent a dream, or a mare may actually have been trained to place her hoof upon those who came to be healed.

SWITZERLAND

Antiquities in Geneva.—In *R. Arch.*, fifth series, I, 1915, pp. 303-325 (15 figs.), W. DEONNA supplies additions and corrections to the previous lists and discussions of antiquities in Geneva (*R. Arch.*, 1910, II, pp. 401-412; A. Cartier, 'Le Musée d'Art et d'Histoire de Genève,' in *Compte rendu du XIV^e Congrès international d'Anthropologie et d'Archéologie préhistoriques*, Geneva, 1914, II, pp. 497 ff.; E. Doumergue, *La Genève des Genevois*, 1914, pp. 264, 271 f.; G. Nicole, in Arndt-Amelung, *Photographische Einzelaufnahmen Antiker Skulpturen*, VII, 1913, pp. 11 ff.). Most of the objects described are in the Musée d'Art et d'Histoire. Among them are casts of some of the marbles from Aegina, made before Thorvaldsen's restorations. Several vases and bronzes are also of interest. A treasure of silver, found in 1912 at Fins d'Annecy, is to be published by Mr. Cartier. Its most important piece is a patera with reliefs which picture the victory of Augustus at Actium. A page is devoted to the epigraphic collections and the Duval collection, which last contains several works of ancient sculpture and some "Campagna reliefs."

GERMANY

The Tumuli near Haguenau.—In *L'Homme préhistorique*, II, 1914, pp. 321-333 (5 pls.; fig.), L. COUTIL discusses the discoveries made in the tumuli in the

forest of Haguenau (Alsace), where excavations have been carried on for many years. Nessel opened about 700 of them. Numerous vases and objects of metal from the mounds are preserved in the museum of Haguenau. There are many beautiful specimens of pottery which date from the second and third periods of the Bronze Age, and from the Hallstatt period.

NORTHERN AFRICA

Corrections in Inscriptions.—In *R. Ép.* II, 1914, pp. 311–315, J. CARCOPINO offers corrections in the text of certain inscriptions from Djemila recently published by A. Ballu.

An Inscription from Djemila.—In *R. Ét. Anc.* XVII, 1915, pp. 183–185, R. CAGNAT points out that two inscriptions from Djemila (*C.I.L.* VIII, 20150 and 8311) are really parts of one inscription which he restores thus: [Ma]rti A[ug]. Genio [col(oniae) qua]m Flavius Breucus fl(amen) [p(er)p(etuus) de sua] pec(unia) dederat res p(ublida) ba[sim cum col]umnis et tholo fec[it cu]rantib(us) L. Ocl[a]prio [N]ata[li] et C[la]ssio Honorato II[viris]. D(ecreto) d(ecurionum)].

GREAT BRITAIN

A Silver Dish from the Tyne.

—An oblong silver dish or *lanx*, found in the river Tyne in 1735 and now belonging to the Duke of Northumberland, is published by P. GARDNER in *J. H.S.* XXXV, 1915, pp. 66–75 (fig.). The picture in relief (Fig. 4), with incised details, shows a group of



FIGURE 4.—SILVER LANX FROM THE TYNE

Greek divinities, the huntress Artemis at one end and Apollo in his Delphic shrine at the other, with Athena, Aphrodite and Hera between. It is apparently a late transformation of the scene of the Judgment of Paris, with Apollo taking the place of Paris, as is not unknown in some late vase paintings. The types are purely Hellenistic, with slight suggestions of Christian, but nothing of Roman art. A date in the early part of the fourth century A.D., and an origin in one of the great cities of Asia Minor seem most probable. The presence of Artemis in the main scene and of her symbols in the separate narrow field below suggest Ephesus. The guild of silversmiths that flourished here under the patronage of the temple may well have worked for secular purposes as well and have survived to this late date.

EARLY CHRISTIAN, BYZANTINE AND MEDIAEVAL ART

GENERAL AND MISCELLANEOUS

The Tomb of St. Polycarp and the Topography of Ancient Smyrna.—In *B.S.A.* XX, Session of 1913-1914, pp. 80-93 (2 pls.), F. W. HASLUCK, after citing the literary evidence, makes the following deductions as to the history of the traditional tomb of St. Polycarp. "As early as 1622 an empty sarcophagus inside a humble dwelling was associated with S. Polycarp and revered by Greeks and Turks alike: the tomb was Mohammedan in form, and in charge of a dervish. About the middle of the seventeenth century it passed into Christian hands. In the eighteenth the sarcophagus seems to have been removed, or at least the cult transferred by the Turks to the site of the present tomb, while the supposed chapel continued to be revered by Christians. The prestige of the sarcophagus made the outwardly Turkish tomb still an object of reverence for Greeks, who were encouraged from interested motives by the custodian." Tradition at Smyrna is not to be trusted. Various sites have been associated with St. John and St. Polycarp. The ruins on the castle hill, to which the name "judicatorium" has been given, are probably the remains of the ornamental terminus of the Kara-Bounar aqueduct or *Aqua Traiana*.

Christian Buildings in the Asclepieum at Athens.—In *'Αρχ. Έφ.* 1915, pp. 52-71 (22 figs.), A. XYNGOPOULOS describes and classifies the fragments of Christian architecture discovered on the site of the Asclepieum at Athens. These belonged to two churches of the fifth and the tenth (or eleventh) century respectively, the two most flourishing periods of early Christian art in Greece, while foundations of the apses of three churches are shown on the plan of Lambert (1877). The long building close to the Acropolis rock may have been the dining room of a small monastery. The adjoining cave seems to have been used as a chapel.

The Monastery "APMA."—Commenting on Georgiades' article (*'Αρχ. Έφ.* 1914, pp. 192-197) on the Monastery of St. George near Eretria, A. XYNGOPOULOS (*'Αρχ. Έφ.* 1915, pp. 84 f.) offers several possible explanations of the inscription APMA, dates the church in the tenth or eleventh century, says the meander relief is of a type not at all unique, but very common in Christian art, and assigns the wall paintings of the narthex, the artistic value of which he thinks Georgiades has underestimated, to the seventeenth or eighteenth century.

"Eretrian" Meander Pattern.—In *'Αρχ. Έφ.* 1915, p. 94 (fig.), A. S. GEORGIADIS publishes a drawing showing how the meander pattern, carved in relief upon a marble slab in the church of the Monastery of St. George (cf. *ibid.* 1914, pl. 5), is to be restored as a continuous frieze.

A Statuette of the "Good Shepherd."—In *'Αρχ. Έφ.* 1915, pp. 34-43 (6 figs.), G. A. SOTERIOU publishes a marble statuette in the National Museum at Athens (No. 2828), representing the Good Shepherd as a boy carrying a sheep on his shoulders, to be dated in the neighborhood of 300 A.D. This new specimen upsets the former classification of Good Shepherds, sculptured in the round, into an earlier and a later group, by having characteristics of both groups, which, therefore, appear to have existed side by side. The statuette probably served as a tombstone.

The Sassanid Church and its Decoration.—In *Mh. f. Kunstw.* VIII, 1915, pp. 349-365 (21 figs.), J. STRZYGOWSKI makes the reviewing of two recent publications, Gertrude Lowthian Bell's *Churches and Monasteries of the T'âr Abdîn and Neighboring Districts* and Ernst Herzfeld's *Erster vorläufiger Bericht über die Ausgrabungen von Samarra*, the occasion to present, in anticipation of the appearance of his work on Armenian architecture, new material for the Persian church, its architecture and decoration. The citadel church of Amida, in spite of the later Mohammedan decoration, shows the conch buttressing, the barrel vault terminating in two half domes, and the dome supported on trompes over a cruciform ground-plan—all features which were already characteristic of the Sassanid palace at Sarvistan and which played a fundamental rôle in Armenian architecture. The stucco work, which became so important in the art of Islam and of which the excavations at Samarra reveal beautiful ninth century examples, is a branch of art the practice of which must have radiated from Iran. Fine examples of it are still to be seen in Khargird (Khorassan) and imitations are found in the remains of the deserted cities of Turkestan. This spread of stucco decoration to the East is due to the influence of the Persian church, an influence which extended, as the stele of Singan Fu tells us, into the heart of China. The same church was throwing out ideas to the West, furnishing models of doming and of stucco decoration, and giving to the Byzantine church its ceremony and imperialistic character.

Representations of the Buildings of Jerusalem.—In *Or. Christ.* IV, 1915, pp. 64-75 (2 pls.), A. BAUMSTARK recognizes on an ivory diptych of the treasury of Milan Cathedral a series of representations of the early Christian buildings of Jerusalem: Church of the Anastasis, Church of the Apostles, the arcade of the courtyard between the first mentioned church and that of the Martyrs, the east gate of Hadrian's Aelia Capitolina, and Hagia Sophia with the adjacent cubiculus of the Flagellation—all in connection with those events traditionally localized with them.

Two Early Coptic Printed Stuffs.—In *Burl. Mag.* XXVII, 1915, pp. 168-169, W. R. LETHABY supplements in a letter to the editors the article, 'Two Early Egyptian Printed Stuffs,' by F. Birrell (*Ibid.* pp. 104-109; cf. *A.J.A.*, 1915, p. 364), pointing out that the maidens in attendance on the throne in the Edinburgh piece are the Wise and Foolish Virgins, and calling attention to a curtained niche in the fragmentary band above in which was the Christ. To the right of Daniel in the Berlin fragment Lethaby recognizes the figure with hands upraised as belonging to a representation of the Three Hebrews in the Fiery Furnace. This combination of deliverance subjects suggests that the pieces were originally parts of shrouds. On one of the fragments of the Victoria and Albert Museum Lethaby sees a procession of saints with crowns rather than a Communion of the Apostles. In an appended note F. BIRRELL makes some orthographical corrections of his own article.

Iunctio Manuum.—In *L'Arte*, XVIII, 1915, pp. 305-315 (6 figs.), E. TEA studies the *iunctio manuum*, and finds that in the West it was not a liturgic attitude of prayer until the ninth century at least, when the practice was being bitterly debated in the church. In Western art there are only sporadic and doubtful examples until the twelfth century; but it becomes common with the Gothic in France and the Proto-Renaissance in Italy.

The Hunting Tapestry in the Minneapolis Institute.—In *Art in America*,

III, 1915, pp. 224-226 (pl.), J. BRECK writes a short note on the newly acquired fifteenth century Burgundian Hunting Tapestry of the Minneapolis Institute of Art and gives a colored illustration of it (see *A.J.A.*, 1915, p. 366).

Early Textiles in the Cooper Union Collection.—In *Art in America*, III, 1915, pp. 231-254 (13 figs.), 300-308 (6 figs.), and IV, pp. 43-52 (10 figs.), R. MEYER-RIEFSTAHL discusses the early textiles in the Cooper Union collection. The two theories, one of which traces early mediaeval textile styles back to Egypt (Falke), the other to Persia (Strzygowski), each have their measure of truth. The hostile relations of the Roman and Sassanian empires prevented important commercial relations between them and thus it was really Alexandria which was the commercial centre of the textile industry. For no great

amount of silk came through the Sassanid kingdom to the West, most of it coming by the water route to Alexandria. On the other hand, Alexandrian weavers furnished their customers with designs directly imitated from Sassanian fabrics. While the Cooper Union has no Sassanian textiles, of which there are but few preserved, it has good examples of their imitation both by the later Byzantine and Moslem weavers and also by the more nearly contemporary looms of Egypt. From Egypt, however, the provincial Coptic work is better represented in our museums and in the Cooper Union than is the finer Alexandrian product. These native textiles are interesting as illustrating local and plebeian art and as showing the basis on which many of the later designs



FIGURE 5.—VIKING SHIP FROM OSEBERG

of Mohammedan art were founded. Under the Arabs the textile art flourished, but larger figurative work was in abeyance until the time of the tolerant Fatimites, 969-1171. The Cooper Union possesses ten interesting figured fragments of the Mohammedan era, of which the most important one presents in the traditional medallions pairs of women drinking.

The Origin of Romanesque Ornament.—In *Mh. f. Kunstw.* VIII, 1915, pp. 309-328 (16 figs.), A. HAUPT emphasizes the part of the old Germanic wood architecture and carving in the origin and development of Romanesque architectural ornament. For the great importance of wooden architecture up to Romanesque times there are plenty of documents, and even, especially in the extreme north, some considerable remains of the ornament are found on minor works. Such are the wooden decorated objects in graves; the choir stalls;

the old wooden church portals of Norway and the so-called chapel in the church at Hopperstad; the blockhouse, Raulandstuen, in the Bygdø Museum at Christiania; various ecclesiastical benches and chairs, including especially the so-called Viking Thrones; the early decoration of the church at Urnäs; and above all the curious, huge burial monuments known as the Viking Ships, of which a ninth century example in good preservation (Fig. 5) has recently been found at Öseberg. On the one hand these actual monuments in wood show prototypes of Romanesque carving, generally even richer in ornament than could be carried out in decorative stonework. On the other hand Romanesque ornament in stone, witness the door in Tirol Castle (Fig. 6), displays conscious imitation of wood-carving. Looked at from either viewpoint this is the proof that ancient native tastes, though not responsible for ground-plan and construction, moulded the formal and decorative side of the architecture denominated Romanesque.

Ambiguous Sanctuaries.—In *B.S.A.* XX, Session of 1913-1914, pp. 94-122, F. W. HASLUCK discusses the Bektashi sect in relation to orthodox Islam and to Christianity, especially as it affects the numerous "ambiguous sanctuaries," where a previous Christian cult is overlaid by a Bektashi cult. A note on

Haidar, Khodja Achmet, and Karadja Achmet shows how the three are confused. Khodja Achmet lived long before Hadji Bektash.

Catalogues and Collections of Incunabula.—In *R. Arch.*, fifth series, I, 1915, pp. 283-302, SEYMOUR DE RICCI contributes an essay on collections and catalogues of early printed books, pamphlets, and sheets, i.e., those printed before 1501.

ITALY

S. Maria Maggiore.—In *Boll. Arte*, IX, 1915, pp. 20-32, 136-148 (14 figs.), G. BIASIOTTI makes a careful technical study of the materials used in the construction of S. M. Maggiore and of the manner of their use, and gathers the available evidence concerning the earlier buildings on the site as revealed by excavation. The evidence of both lines of research indicates that this Roman church cannot antedate Sixtus III. Interesting incidental points disclosed are that the horizontal architrave is of brick and mortar and that, as far as can



FIGURE 6.—DOOR OF TIROL CASTLE

be judged by technique, the mosaics of nave and triumphal arch are contemporary with each other and with the other mosaics of Sixtus III in S. Sabina.

S. Maria Maggiore before the Sixteenth Century.—In *Mél. Arch. Hist.* XXXV, 1915, pp. 15-40, G. BIASOTTI deals with the history of S. Maria Maggiore before its rebuilding in the sixteenth century.

Reconstruction of the Schola Cantorum of S. Saba.—In *Boll. Arte*, IX, 1915, pp. 129-135 (5 figs.), M. E. CANNIZZARO and I. C. GAVINI defend the manner in which the Schola Cantorum of S. Saba has been reconstructed and show the reasons for this reconstruction in preference to that proposed by P. Styger (see *A.J.A.*, 1915, p. 209). A combination of the evidence derived from the pieces preserved and from the corresponding furnishing of the other Roman churches determined the plan of restoration.

S. Maria di Falleri.—In *Rass. d'Arte*, XV, 1915, pp. 199-208 (10 figs.), A. VALLE describes the ruined twelfth century church of S. Maria di Falleri and indicates its importance as the model for the ecclesiastical architecture of Civita Castellana and the surrounding country.

The Palace of Theodora.—In *B. Com. Rom.* XLII, 1914, pp. 328-342, G. S. GRAZIOSO publishes an inscription recently found in the course of repairs to the church of S. Sabina on the Aventine, which seems to refer to Theodora I, who was so prominent in Rome during the tenth century. The inscription is carved on a stone at least 2.30 m. long, originally the lintel of a large door, presumably in the palace of Theodora which is thus located on the Aventine. Other evidence for putting the palace here is adduced.

The Churches of Caramanico.—In *L'Arte*, XVIII, 1915, pp. 258-271 (9 figs.), P. PICCIRILLI discusses various churches in and near Caramanico. S. Tommaso in Varano is a typical Benedictine church built in 1202. It is a three-aisled basilica without transept, and has on the lintel over its principal door figures of Christ and the Apostles. On one of the interior pillars are frescoes, which are closely related to those of S. Maria ad Cryptas of Fossa, of S. Pellegrino of Bominaco, and of the grotto of St. Thomas at Anagni, all of which must date from the thirteenth century. S. Maria Assunta was originally a Romanesque church, renewed in the fifteenth century. The main door is dated 1452; and the lunette above the Coronation of the Virgin was made by Johannes Biomen of Lübeck in 1476. The exterior of the apse is decorated with several statues, and within the church is a silver Virgin of French style of the thirteenth century. The fifteenth century campanile is divided by mouldings into four stories and has a pyramidal roof. The principal remains of S. Tommaso d'Aquino (founded in 1401) are two portals, one attributed to a Lombard and the other to a German master. The original character of both S. Nicola and S. Maurizio has been lost but their campaniles are similar to that of S. Maria Assunta. In S. Maurizio is a Madonna triptych of the style of Carlo Crivelli; another picture, perhaps by the same artist, is a Madonna from S. Maria now in the cabinet of the local syndics. A third Venetian painting of about the same date is a triptych in S. Maria Assunta representing the Madonna and Christ in the house of Levi in the middle panel, and six saints at the sides. Of the profane architecture of Caramanico of this time the remains are but few.

Sculptures in the Campo Santo of Pisa.—In *Boll. Arte*, IX, 1915, pp. 169-178, 209-216, 264-280 (45 figs.), R. PAPINI discusses the origin of Pisan sculpture

and its development from the twelfth to the fifteenth century with especial regard to the Campo Santo collection. From the very beginning of the Romanesque series of monuments in the second half of the twelfth century the imitation of the antique was the source of inspiration. The three stylistic groups into which Venturi tried to divide the twelfth century sculpture are too closely interrelated to stand, but chronologically the late twelfth century can be sharply distinguished from the early thirteenth. Suddenly and incomparably superior to the foregoing, however, rises Nicola Pisano; incidentally let it be mentioned that the extra lion on the stair of his pulpit in the Pisan Baptistry can be identified from a drawing by Dosio as that made by Giovanni Rossi in 1320 to support the famous Bacchic crater on a column in front of the Pisan Cathedral. Next comes Giovanni Pisano, who first founded a school and of whom there are two Madonnas in the Campo Santo. Besides his sons Nino and Tomaso he had other pupils of three distinct personalities, the dependent and very Gothic Master of the pulpit of S. Michele in Borgo the decorative Tino di Camaino, and the solemn and non-Gothic Master of the Gherardesca monument. The trio of Quattrocento sculptors are Matteo Civitali; Stagio Stagi; and Andrea Guardi, whose dismembered Ricci monument, part in the Campo Santo, part in the Cathedral, followed very closely, both in date and plan of composition, that of John XXIII in the Florentine Baptistry. Like other collections that of the Campo Santo has pieces of doubtful pedigree. The bust of Junius Brutus and that of Hadrian seem to be imitations of about 1600; two little reliefs of Roman emperors (Nos. 348 and 349) are probably of the fifteenth century rather than antiques; the relief of the Three Graces seems of the fourteenth century though a conscious reflection of ancient relief style; and the supposed Isotta da Rimini appears to be an eighteenth century counterfeit of Quattrocento sculpture.

The Roof of the Vatican Basilica.—In *Mél. Arch. Hist.* XXXV, 1915, pp. 81-117, M. CERRATI describes the reconstruction of the roof of the Vatican basilica by Benedict XII in 1335-1337, and publishes some of the documents relating to this work.

Mediaeval Jewelry at Venafrio and Isernia.—In *Rass. d'Arte*, XV, 1915, pp. 43-48 (9 figs.), P. PICCIRILLI describes a head of gilded silver at Venafrio, the work of Barbato of Sulmona and dated 1340, and several silver pieces in the cathedral treasury at Isernia. A reliquary and two chalices resemble work of about 1400 and are probably Sulmonese also; two crosses, one of the thirteenth, the other of the fourteenth century, are of French workmanship.

The Gesta Romanorum as a Secondary Historical Source.—In *Mh. f. Kunstw.* VIII, 1915, p. 251, V. C. HABICHT calls attention to the importance of the *Gesta Romanorum* as a secondary source for art history and exhibits in particular a passage which proves that the statues of Frederick II and his two judges at the Capua castle actually had the inscriptions recently denied them.

Romanesque Architecture in Aretine Territory.—In *Rass. d'Arte*, XV, 1915, pp. 30-42, 63-72, 134-144, 156-164 (78 figs.), M. SALMI traces in a monograph the history of Romanesque architecture in Arezzo and the Aretine country with especial attention to the rural churches, as well as the urban ones.

S. Miniato al Monte.—In *Böhl. Arte*, IX, 1915, pp. 217-244 (14 figs.), L. DAMI makes an extended study of the church of S. Miniato al Monte, Florence. An act of Henry IV indicates that the church was constructed by 1062. Of

the façade the first story and the lattice work design of the second date before the founding of the Collegiata of Empoli modelled after S. Miniato, 1093; the remainder belongs to the second half of the next century, except, perhaps, the façade mosaic, which like that of the apse has been so much restored as to render the original date doubtful. The church contains well-known frescoes and panels of the Florentine Trecento. The episcopal palace dates from 1295; the convent, though rebuilt, is of much older founding.

Lombard Architecture.—The Yale University Press has issued as Volume IV of ARTHUR KINGSLEY PORTER's *Lombard Architecture* an atlas of 244 plates, in which are shown all the important examples of Lombard architecture in Italy. Besides views of buildings many architectural details are reproduced. Each plate usually contains several figures, so that the actual number of illustrations in the volume amounts to a thousand or more, a large proportion of which are from the author's own photographs. The three volumes of text will be published in 1916. [*Lombard Architecture*. By ARTHUR KINGSLEY PORTER. Vol. IV. New Haven, 1915, Yale University Press. 244 pls. Folio. \$15 net.]

SS. Severo and Martirio near Orvieto.—In *Boll. Arte*, IX, 1915, pp. 193-208 (16 figs.), L. FRÖCCA describes the ruinous but recently restored church and abbey of SS. Severo and Martirio outside of Orvieto. The foundation dates from the ninth century but was rebuilt two centuries later. The architecture is like that of other contemporary abbeys of central Italy, entirely Lombard Romanesque except for the Cistercian ground-plan and the simple use of the pointed arch and the ribbed cross-vault.

Monuments Damaged or Destroyed by the Earthquake.—In *Boll. Arte*, IX, 1915, pp. 33-112 (112 figs.), there is an account of the districts and monuments affected by the great earthquake of January 13, 1915. In *Pagine d'Arte*, III, 1915, pp. 32-33 (6 figs.), P. PICCIRILLI writes of damages from the earthquake in the Abruzzi (see *A.J.A.* 1915, p. 358).

SPAIN

An American Collection of Spanish Pottery.—In *Burl Mag.* XXXVIII, 1915, pp. 64-75 (pl.), A. VAN DE PUT reviews Barber's recent pottery and majolica catalogues of the Hispanic Society and adds some notes of interest: Bosco's excavations revealed the use of lustre pigment upon tin enamel already in the ninth and tenth centuries, Cock's report of the process of the Moors of Muel is a gross mistranslation, the wheel pattern dates back into the fifteenth century, the majolica portrait supposed to be the ninth Count of Aranda cannot be so identified but may be the tenth.

GERMANY

The Naumburg Lectern Crucifix in the Kaiser-Friedrich Museum.—In *Jb. Preuss. Kunts.* XXXVI, 1915, pp. 137-152 (pl.; 17 figs.), A. GOLDSCHMIDT discusses the crucifix group, Christ and the Virgin alone preserved, acquired in 1913 by the Kaiser-Friedrich Museum from the Moritzkirche in Naumburg. The treatment of the loincloth and the attitude of the Christ with the crossed feet pierced with a single nail, an innovation in Saxony due to French influence, permit the group to be dated iconographically about the twenties of the

thirteenth century. In this group the Saviour and Virgin both seem to show the characteristics of a miniature rather than a plastic tradition. There are a number of other Saxon crucifixes of the same general type and date. The most closely related is that in the Catholic church at Wechselburg. Other examples are those in the Halberstadt Liebfrauenkirche, in the Dresden Altertummuseum from Freiberg, in the Merseburg Cathedral, in the Corvey monastery church, in the Hannover Provinzialmuseum from Alfeld—all of French inspiration.

The Bamberg Treasury.—In *Burl. Mag.* XXVIII, 1915, pp. 14-20, 60-65 (4 pls.), M. CONWAY discusses the material offered by the monumental publication of E. Bassermann-Jordan and W. M. Schmid, *Der Bamberger Dom-schatz*, Munich, 1914. This wonderful collection was like the cathedral founded by Heinrich II and Kunigunde. Since 1803 the bulk of what has been preserved has been in Munich. As objects precious for their rarity and beauty alike there are the glass "Cup of S. Kunigunde" and an onyx dish, both probably Alexandrian work of Roman imperial times; a knife of the time of the barbarian invasions in a carved ivory sheath of Merovingian or Carolingian date; a mace-head and the reliquary "Lamp of St. Kunigunde," both rock-crystal of Egyptian Fatimite workmanship. The bookbindings of the ninth and early tenth century in the collection are silk partly overlaid with silver plate; those of the late tenth are of the Greek type introduced by the workmen of Theophania, Byzantine bride of Otto II, and show a central ivory in a wide golden frame inlaid with jewels, not set haphazard in the barbarian massive fashion but with Byzantine regularity and fineness of accompanying filigree work. There are numerous other independent ivories representing both eastern and western carving. Of the reliquaries the most precious is the flat cross reliquary in a gold frame now in the Reiche Kapelle at Munich. The "Crown of St. Kunigunde" is also in Munich in the Schatzkammer and the most interesting of the crowns preserved, for part of it goes back to the eleventh century. Its coronet was added in the fourteenth century, the date also of the two other crowns of the collection. Of other objects the two wooden caskets covered with bone carvings of Scandinavian character set in bronze are notable.

Mysticism in Sculpture of Cologne and the Lower Rhine.—In *Mh. f. Kunstw.* VIII, 1915, pp. 223-237 (12 figs.), G. E. LÜTHGEN traces the influence of mysticism in the sculpture of Cologne and of the lower Rhine in the fourteenth century, during which the upper reaches of the Rhine showed great development, while the lower country clung to the old thirteenth century forms mixed with strong infusion of mystic, i.e., Franciscan ideas. The sculpture in stone is less representative than that in wood, above all the wooden crucifixes. The crucifix in St. Maria im Kapitol, Cologne, dated by a lost inscription 1304, and the Heimbach crucifix of the Graf von Isenburg now in the Cologne Kunstgewerbemuseum, dated by the donors represented about 1300, offer a definite chronological basis for study of the mystical movement. Its close resemblance to the crucifix of St. Maria im Kapitol dates the crucifix of St. Severin, Cologne, in the first decade of the fourteenth century. Slightly later in the first third or at latest in the first half would fall the crucifix of St. George, Cologne, and that of the Katholische Pfarrkirche, Kendenich. Apart from a few belated examples the influence of mysticism is but weakly

perceptible in crucifixes of the end of the century, for Cologne, too, fell in line with the general contemporary tendency of German sculpture to quiet beauty of form; but further down the Rhine radiations of the city's passionate mystical style held their ground down to 1400 and later, gradually amalgamated with the more delicate, less plastic style of North France and Belgium. From the union of the mild type, illustrated by the crucifix of Oplinter, Belgium, itself a type also ultimately mystic and Franciscan, and the harassing Cologne type, came as legitimate offspring the crucifix of the Katholische Pfarrkirche at Linn, one in the Schnütgen museum, and a later one in the Katholische Pfarrkirche at Dinslaken. The dating of the crucifix of St. Maria im Kapitol in 1304 is as important for establishing the chronology of Pietàs as for crucifixes. Of about that date should be the Röttgen Pietà of the Bonn Provinzialmuseum while the degenerate variants of St. Andreas, Cologne, and of the Pfarrkirche, Knechtsteden, are to be set roughly a century later.

The Master of Naumburg.—In *Mh. f. Kunstw.* VIII, 1915, pp. 263-273 (10 figs.), E. COHN-WIENER begins the study of the Master of Naumburg with an article on the statues of the founders in the west choir of Naumburg Cathedral. The statues fall into two groups. Six of the men, now named Conrad, Dietrich (Fig. 7), Timo, Wilhelm, Sizzo, and Ditmar, belong to



FIGURE 7.—SAINT;
NAUMBURG



FIGURE 8.—TWO SAINTS;
NAUMBURG

an earlier plan showing the influence of the original scheme at Magdeburg and mentioned in a letter of Dietrich II in 1249; it allowed six male and five female figures in the choir. A subsequent rearrangement, definitely under the influence of Ste. Chapelle at Paris, and a changing of position and names gave the present eight male and four female figures. Gepa, Gerburg, Hermann and Regelindis (Fig. 8), Eckhard and Uta, fall in the later period. A round keystone in the chapel of the cemetery carved with St. John Baptist was probably made for the vault of the first plan. The style of the Master of Naumburg is derived from the funeral sculpture of Saxony rather than from French prototypes. His work must have been in place by 1270 for the tomb of Graf von Gleichen (died 1264) in Erfurt Cathedral and that of Graf Heinrich von Solms, (died soon after 1258) in Kloster Altenberg near Wetzlar, show unmistakable imitation.

RENAISSANCE ART

ITALY

Niccolò Fiorentino.—In *Mh. f. Kunstw.* VIII, 1915, pp. 187–197 (15 figs.), H. FOLNESICS studies a follower of Donatello's latest style, Niccolò Fiorentino, first mentioned in connection with Andrea Alexi in a document of Traù in 1468. An earlier monument, however, which is attributable to Niccolò is the arca Sancti Rainerii in Castell Vitturi near Spalato. This is not of Florentine form, probably because its maker was obliged by contract to follow a design of Giorgio da Sebenico, to whom the commission was originally entrusted. But aside from those parts which point to the coöperation of Alexi it echoes numerous motives from Donatello. The next work assigned to Niccolò is the Donatellesque Flagellation in the Berlin museum. It reflects the influence of Giorgio da Sebenico though probably done in Florence on some home-coming of the sculptor. Another Florentine work which stands in immediate relation to Niccolò is a design of the Uffizi hitherto doubtfully ascribed to Donatello, but certainly duplicating in part the relief on the Castell Vitturi sarcophagus. From 1468 the sculptor is more traceable. The following year he designed the Donatellesque tomb of Giovanni Sobota in S. Domenico at Traù; it is a monument of Florentine type and shows a great advance over the artist's earlier efforts. A more important commission, almost contemporary, was the erection of the Orsini chapel at the same place. This is decorated with sculpture by Niccolò aided by Andrea Alexi and Giovanni Dalmata. Still other works of the master are found in the cemetery at Traù, a statue of the Saviour, a half-length God Father, and a relief of the Descent from the Cross. From 1477 until his death in 1500 he was engaged as architect of the cathedral at Sebenico, where he devoted himself more to architecture than to sculpture though an unfinished Entombment and various decorative pieces by him are recognized. His work owes its quality mainly to two marked tendencies, the first toward architectural composition, the second toward the further development of Donatello's last or realistic style.

The Origins of Magnasco.—In *Mh. f. Kunstw.* VIII, 1915, pp. 238–248 (13 figs.), L. PLANISICIG traces the origins of Magnasco. In contrast to the official academic art of Domenichino, Michelangelo da Caravaggio brought a certain trend toward naturalism and toward romanticism into Italian painting, but this latter movement owned its principal impetus to the Netherland painters who began to study in Italy and even influenced Caravaggio. With the seventeenth century the romantic wave, accelerated by the spread of engraving, and the love of ruins and suggestive landscape became prominent. Salvator Rosa, though a would-be classicist, was most instrumental in developing under northern influence this genre tendency with the new landscape painting. Jacques Callot signifies practically the displacement of the baroque by the rococo. A native of Genoa, where the works of Van Dyck were particularly favored, Magnasco moved toward the end of the seventeenth century to Milan, at that time infused with the Venetian and Spanish impressionistic movements and the centre of Spanish life in Italy. This life the artist portrayed, and, as the Le Nain brothers were laying the foundation of French rococo, he became representative of native Italian rococo before it succumbed

to the French. A new attribution to Magnasco is a Decolation of St. John in the Stadtmuseum, Meran, South Tyrol; other neglected works are illustrated.

Belbello da Pavia.—In *L'Arte*, XVIII, 1915, pp. 241-252, G. PACCHIONI begins the study of an illuminated missal in the Palazzo Ducale at Mantua. The codex is illuminated by two very distinct masters. The older is the same as the master of the Vatican Bible of Niccolo III d'Este. This hitherto anonymous miniaturist, a large number of whose works are known, is here identified tentatively as Belbello da Pavia. Belbello is recorded at work at the Gonzaga court in 1448 and in 1451 and a decade later he began a missal which was sent incomplete to Mantua to find eventual completion at the hands of a younger artist. This missal would tally perfectly with the one actually preserved at Mantua in date, style, and the circumstance of showing the work of two dissimilar men. Accepting this hypothesis, the Mantuan missal takes its place at the end of Belbello's activity which could be summed up as follows: before 1434, the Este Bible; about 1440, the Visconti prayer-book; slightly later, the antiphonary of Cesena; and near to the Mantuan missal in date, a leaf of the Braidense (Milan) and another in a codex of 1462 in the Marciana.

A Dosso Dossi in the Boymans Museum.—In *Burl. Mag.* XXVIII, 1915, pp. 20-23 (pl.), F. SCHMIDT-DEGENER attributes to Dosso Dossi and dates about 1535 a panel painting representing on the front a satyr and a nymph, on the back an olive tree with falling fruit. On the tree is tacked a cartellino with the legend, "*Infelix fatum cadit ahl de ramis oliva.*" This possibly connects the picture with the Olivi, Olivieri, or Olivati of Ferrara. It is now in the Boymans Museum, Rotterdam, where it already figured in the 1811 catalogue.

Nicola di Maestro Antonio of Ancona.—In *Rass. d'Arte*, XV, 1915, pp. 165-174 (pl. 9 figs.), B. BERENSON takes as his starting point the signed altar piece of 1472 in the collection of Vernon Watney, Cornbury Park, Charlbury, and attributes to Nicola di Maestro Antonio of Ancona a St. Peter at Highnam Court, a Magdalene and a St. Francis in the Oxford University gallery, a Pietà in the communal gallery at Jesi, a St. John Baptist in the Walters collection, a Madonna and Saints in the Palazzo Massimo at Rome, the Stonyhurst Madonna now owned by Sir J. B. Robinson of London, and a St. Anthony Abbot in the hands of the London dealer Nicholson. Nicola di Maestro Antonio derived from Carlo Crivelli, but shows the influence of Cosimo Tura and Marco Zoppo, and less directly of the Umbrians. The works mentioned do not show any great development, and might very well all date within a few years after the altarpiece of 1472.

A Panel by Giovanni di Paolo.—In *Burl. Mag.* XXVIII, 1915, p. 3 (pl.), T. BORENIUS publishes a panel by Giovanni di Paolo belonging to Mr. Robert Ross. The picture represents St. Fabian and St. Sebastian with two diminutive brethren of the Misericordia kneeling at their feet. Though the provenance of the picture is unknown before the present owner bought it at the sale of Mr. Charles Butler's collection at Christie's, 1911, it was apparently the altarpiece of the chapel of some charitable brotherhood dedicated to these two saints of January 20.

The Dossi.—Among the North Italian schools of painting which have recently been receiving the increasing attention of critics that of Ferrara has come into the foreground and in particular the personalities of the two Dossi

have been studied. Supplementing the criticism of Berenson and Venturi and the monograph of Mendelsohn, C. PHILLIPS in *Burl. Mag.* XXVII, 1915, pp. 133-134 (2 pls.) characterizes the two brothers. Dosso, the older, is the more animated and able creative spirit. Battista though not entirely dependent imitates him blandly and superficially. The author, who had previously published in the *Art Journal*, December, 1906, a little Pietà in his own collection as the earliest known Dosso, now gives an Adoration of the Magi in the possession of Capt. E. G. Spencer-Churchill at Northwick Park as the earliest Battista.

A New Document for Pietro Torrigiani.—In *Boll. Arte*, IX, 1915, pp. 181-192 (6 figs.), A. FERRAJOLI reviews our knowledge of Pietro Torrigiani and publishes a will made by this sculptor September 4, 1498, and preserved in the Archivio Capitolino. This new document mentions a bust of Alexander VI by Torrigiani which may be that in the Berlin museum. It also tells that the artist was then living with Stefano Coppi, rector of S. Salvatore alla Suburra, and thus opens the possibility of identifying as works of Torrigiani the three busts, the Saviour, S. Fina, and S. Gregorio, which Coppi had made for his church and later sent to his native Sangimignano, where the first is now preserved in the Collegiata, the two others in the Ospedale di S. Fina.

Florentine Miniatures.—In *Rass. d'Arte*, XV, 1915, pp. 49-58 (pl.; 12 figs.), L. DAMI abstracts D'Ancona's monumental work, *La miniatura fiorentina nei secoli XI-XVI*. From the eleventh to the thirteenth century Florentine miniatures are scarce; in the eleventh century the types are Byzantine, in the twelfth, Romanesque, but the thirteenth century loved little extravagant and lively scenes. By the second half of the fourteenth century there are three distinct styles, literary for the classics, popular for the legends of the saints, and the dominant ecclesiastical. The transition to the next century is not sudden or marked, but in the Quattrocento the individual miniaturists acquire greater importance. Zanobi Strozzi, Filippo di Matteo Torelli, and Francesco d'Antonio, lead up to the great partners Gherardo and Monte di Miniato, and the culmination at the turn of the century in Attavante degli Attavanti already marks the beginning of the decline.

Perugian Towelling.—In *Rass. d'Arte*, XV, 1915, pp. 20-24 (10 figs.), W. BOMBE lists representations of Perugian towelling in Italian painting of the fourteenth to the sixteenth century. The archival references show that this textile industry was carried on in Perugia by the guild of the *infularii et capellarii* (see *A.J.A.* 1915, p. 207).

Documents for the History of St. Peter's.—In the Beiheft to *Jb. Preuss. Kunsts.* XXXVI, 1915, pp. 21-117, O. POLLAK gives a series of selected documents for the history of St. Peter's extracted from the archives of the R. Fabrica di S. Pietro, with an appendix of similar documents from a manuscript of Giuseppe Gueriggi written at the beginning of the last century, when the archives were more complete than now.

Anonymous Italian Medals.—In the twentieth installment of his 'Notes on Italian Medals,' *Burl. Mag.* XXVII, 1915, pp. 235-242 (2 pls.), G. F. HILL figures anonymous medals, several of Ferrara and of Reggio in Emilia, two Florentine medals of which one is called Don Garcia de' Medici, a medal attributable to the Mantuan Mea, and others of doubtful provenance.

Venetian Paintings in the United States.—In *Art in America*, IV, 1915, pp.

3-21 (pl.; 4 figs.), B. BERENSON continues his study of Venetian paintings in our own collections and discusses Mantegna and Giovanni Bellini. Mantegna's *Sacra Conversazione* of the Gardner collection is dated about 1485, the Altman Holy Family of the Metropolitan Museum at the end of the artist's activity. Of Giovanni Bellini America has what is probably the earliest extant work in the Madonna of the Davis collection. Both Giovanni and his brother, Gentile, developed tardily as long as their father lived. The Johnson Madonna by Giovanni, dating about 1470, reflects Mantegna's influence.

The Choir Stalls of Pantaleone de Marchis in Berlin.—In *Jb. Preuss. Kunsts.* XXXVI, 1915, pp. 175-188 (9 figs.), F. SCHOTTMÜLLER discusses the choir stalls of Pantaleone de Marchis in the Kaiser-Friedrich Museum and compares them with the other work of this intarsia worker in the Certosa of Pavia and in S. Petronio, Bologna. The Berlin stalls have been reconstructed so as no longer to show the original arrangement of the parts.

The Relations of Bramantino and Luini.—In *Rass. d'Arte*, XV, 1915, pp. 147-155 (10 figs.), G. FRIZZONI in a study of Bramantino rejects the theory that this artist collaborated with Bernardino Luini in the latter's frescoes for the Pelucca. The putti of this decoration attributed to Bramantino agree with Luini's drawings and pictures and their only connection with Bramantino is the lighting by reflected light from below, a trick which Luini would have delighted to imitate.

The Ehrich Tintoretto.—In *Burl. Mag.* XXVII, 1915, p. 168, G. F. HILL notes in a letter to the editors that his argument for the identification of the portrait attributed to Tintoretto in the Ehrich Galleries, New York, as a portrait of Scipione Clusona (see *A.J.A.* 1915, p. 364) is vitiated by the discovery that two other members of the family, Bruto and Agostino, are found by the archival researches of G. Castellani to have been in the Venetian military service at the same time as Scipione.

The Early Works of Leonardo.—In *Jb. Preuss. Kunsts.* XXXVI, 1915, pp. 189-207 (10 figs.), W. v. BODE takes up anew the question of the youthful works of Leonardo and assigns to the master the Angel of Verrocchio's Baptism, the Louvre and Uffizi Annunciations, the Benois and Munich Madonnas, the Liechtenstein portrait, and the Berlin Resurrection; he defends Leonardo's authorship of the Czartoryski Girl with the Weasel (ferret or ermine).

Bernardino Lanzano.—In *Rass. d'Arte*, XV, 1915, pp. 91-96 (5 figs.), E. FERRARI summarizes what is known from documents and pictures of the development of the obscure but prolific fifteenth century Lombard, Bernardino Lanzano, who was at his own time rightly dubbed a good decorator and painter of stories.

A Fresco Fragment by Pinturicchio.—In *Mh. f. Kunstw.* VIII, 1915, pp. 337-338 (fig.), W. BOMBE discusses the only preserved fragment of Pinturicchio's fresco decoration for the chapel of S. Lorenzo in S. Maria del Popolo, Rome. This piece represents the Madonna Enthroned and was transferred to the Massa Cathedral when the Roman chapel was rebuilt at the end of the seventeenth century.

Ercole Ferrarese.—In *Rass. d'Arte*, XV, 1915, pp. 191-198 (10 figs.), C. GAMBA studies the picture recently added to the Bologna gallery, the copy of the perished fresco of the Crucifixion that was painted by Ercole Ferrarese in the Garganelli chapel in S. Pietro, Bologna, and made famous by the enthu-

siastic description of Vasari. By comparison with this copy and with other originals of Ercole, the St. Sebastian of the Pitti is assigned to him, and a painting of Figures before a Portico in the Louvre is identified as the copy of a part of the fresco of the Death of the Virgin in the Garganelli chapel.

The Arezzo Gallery.—In *Rass. d'Arte*, XV, 1915, pp. 75-88, 110-120 (35 figs.), A. DEL VITE discusses in chronological order the pictures of the hitherto uncatalogued municipal gallery at Arezzo.

A Triptych of Allegretto Nuzi in Detroit.—In *Art in America*, IV, 1915, pp. 213-222 (3 figs.), C. R. POST studies a triptych by Allegretto Nuzi in the Detroit Museum of Art. The painting illustrates the early period of the artist and shows his schooling. It reflects on the one hand the composition of a triptych by Nuzi's master, Bernardo Daddi, in the possession of Dr. Giulio Ruozzi, Spello, Italy; on the other hand it has the decorative quality and the ethereal figures of the Trecento Sienese. To these influences the artist adds his own opulence, which in later works as in the Bishop-Saint of Mr. Horace Morison, Boston, passes into a grandiose ecclesiasticism akin to Byzantine formalism and the early Venetians.

Luciano da Lauranna as Painter.—In *Jb. Preuss. Kunsts.* XXXVI, 1915, pp. 208-214 (5 figs.), F. WITTING attributes to the architect, Luciano da Lauranna, who is known to have painted views with figures, two pictures in the Palazzo Barberini, Rome. The figure subjects on a small natural scale in the midst of a Renaissance architecture represent the Birth and Presentation of the Virgin.

The Frescoes in the Piccolomini Library.—In *Mh. f. Kunstw.* VIII, 1915, pp. 202-214, R. WEST gives a detailed description of the frescoes of Pinturicchio in the Piccolomini library at Siena.

Sassoferrato as Imitator.—In a supplementary study of Sassoferrato, the painter's biographer, G. VITALETTI (*Rass. Bibl. d'Arte Ital.* 1915, p. 64), records the copies and adaptations of earlier paintings made by this eclectic artist, who devoted his attention particularly to the reproduction of the works of the Venetian and Umbrian schools and took Titian as his master in the one case, Raphael in the other.

Notes on Italian Sculpture.—In *Burl. Mag.* XXVII, 1915, pp. 217-224 (2 pls.), C. PHILLIPS denies the attribution of the Mucius Scaevola in the Wiesbaden museum and the related Roman Warrior of the Collection Jacquemart-André at Paris to Agostino Busti (Il Bambaja) because of their dissimilarity to his reliefs for the unfinished tomb of Gaston de Foix of approximately the same date. In a second note the writer tentatively attributes a terra-cotta relief of the Victoria and Albert Museum, Cupid Unveiling a Sleeping Nymph, to Benvenuto Cellini and compares it to the Nymphe de Fontainebleau of the Louvre.

Italian Paintings at Cracow.—In *Rass. d'Arte*, XV, 1915, pp. 1-4, 25-29 (2 pls.; 8 figs.), M. L. BERENSON lists briefly under artists' names and schools Italian paintings of the Czartoryski, Pusłowski, Potocki, and Lubomirski collections at Cracow.

Early Italian Engravings.—A catalogue of a collection of early Italian engravings exhibited in the Fogg Art Museum of Harvard University in memory of the late Mr. Francis Bullard has been prepared by the Assistant Director of the Museum with the help of Miss Laura H. Dudley. Introductions,

bibliographies, and descriptions are appropriate and carefully done. The collection forms "probably the most representative exhibition ever held in this country of original impressions of early intaglio Italian engravings made prior to the crystallization of Italian technique by the prolific Marcantonio Raimondi." It includes three nielli, several anonymous primitive Florentine engravings in the fine manner, the Otto Prints, a number of engravings from books, the Triumphs of Petrarch, miscellaneous works, prophets, and sibyls in the broad manner, two engravings by Pollaiuolo, five by Cristofano Roberta, the "Tarocchi Cards," engravings of miscellaneous and uncertain schools, engravings by Mantegna and his school, by Giovanni Antonio da Brescia, Zoan Andrea, Jacopo de'Barbari, Girolamo Mocetto, Benedetto Montagna, Giulio and Domenico Campagnola, Jacopo Raibolini (Francia), and several engravers not known by name, and one each by Peregrino da Cesena and Nicoletto da Modena. [PAUL J. SACHS, *A Loan Exhibition of Early Italian Engravings (Intaglio)*. Fogg Art Museum. Cambridge, 1915, Harvard University Press. 357 pp.; 134 illustrations. 4to.]

Two Bronze Reliefs of the Choir Screen in the Abbey of Chiaravalle.—In *Rass. d'Arte*, XV, 1915, pp. 175-179 (4 figs.), L. BELTRAMI calls attention to two round bronze reliefs which once formed a part of the choir enclosure of the church of the abbey of Chiaravalle near Milan. The other decorations used in that construction in 1571 were taken from earlier monuments, and, moreover, the style of the bronze reliefs would seem to date them at the beginning of the century. They represent the Doubting Thomas and the Descent into Limbo and may be units of a Christological series.

Notes on Luca Della Robbia.—In *Burl. Mag.* XXVIII, 1915, pp. 3-7, H. P. HORNE writes a series of notes on Luca della Robbia apropos of the recent Princeton Monograph of Professor Marquand. Apart from minor differences of the attribution of school pieces, Horne would in general set many points in the chronology of Luca somewhat later. The Pistoia Visitation shows the influence of the high Renaissance, of Leonardo, and cannot, therefore, be the Visitation referred to in the will of 1445. The Via dell'Agnolo lunette is also a late work of about 1470 for that was the time of the founding of the little church over the door of which it was placed. The date at which Luca perfected the method of making colored glazed terra-cottas is about 1440 in round numbers; previously he is always mentioned as employed in marble sculpture. Contemporary literary sources prove that Vasari's interpretation of the fourth and fifth campanile reliefs by Luca is incorrect and that the fourth represents Orientals for Arithmetic, the fifth, Pythagoras for Astrology. New documents here published give the matriculation of Luca in the *Arte di Maestri di Pietre e Legnami*, September 1, 1432; show that both he and Andrea belonged to the Compagnia di San Luca; give the correct date of the commission of the Federighi monument in S. Trinita as May 2, 1454 with the additional and curious information that it was to be done after the design of an obscure Giovanni di Ser Paolo; and fix the date of his death, February 23, 1481.

Two Ferrarese Drawings.—In *Boll. Arte*, IX, 1915, pp. 1-12 (7 figs.), G. FRIZZONI reviews the third part of Venturi's seventh volume and adds to the material on the Ferrarese school there presented a drawing of An Ancient Sacrifice by Ercole Roberti in the Loeser collection, Florence, and another drawing of the same title by Francesco Francia in English private possession.

S. Anastasia, Verona.—In *L'Arte*, XVIII, 1915, pp. 296-304 (4 figs.), C. CIPOLLA continues his historical researches concerning S. Anastasia at Verona and studies the side chapels with their monuments and inscriptions (see *A.J.A.* 1915, p. 497).

Sibyls in Italian Art.—In *L'Arte*, XVIII, 1915, pp. 272-285 (10 figs.), A. ROSSI continues the study of the iconography of the sibyl in Italian art (see *A.J.A.* 1915, p. 490). One of the eight female figures (the other seven are virtues) which adorn Nicola Pisano's pulpit in the Siena cathedral is identified as a sibyl, the first one of which we know the master. In Giovanni Pisano's sibyl on the facade of that cathedral a sibylline prophecy, "*Et vocabitur Deus et homo*," appears in abbreviated form on the scroll. The six sibyls of Giovanni's pulpit in S. Andrea, Pistoia, show that more than two were known long before the publication of Lattanzio and of Filippo de Barberiis in the late fifteenth century. Even the ten of Agostino di Duccio in S. Francesco, Rimini, antedate that publication though apparently the literary basis is Lattanzio. Måle errs, then, in attaching importance to the date of the publication of Lattanzio, since the work seems to have been well known before.

The Jarves Collection.—In *Art in America*, III, 1915, pp. 273-283 (4 figs.), O. SIRÉN discusses and gives his attributions of the earliest pictures in the Jarves Collection at Yale University. No. 1, three panels from an altarpiece, representing Crucifixion, Deposition, and Pietà, is assigned to Bonaventura Berlinghieri, a painter of Lucca who is known by a signed altarpiece dated 1235 in S. Francesco in Pescia. No. 11, a Crucifixion hitherto labelled Giunta da Pisa, is attributed to Guido da Siena, whose famous signed Madonna in the Palazzo Pubblico, Siena, bears a contested date, more likely 1271 than 1221. To Guido also are attributed Nos. 5, 7, 15, 16, and 587 of the Siena Academy, a Madonna under the name of Coppo di Marcovaldo in the Uffizi, and another in the gallery at Arezzo. The picture in the Jarves Collection which was formerly assigned to the studio of Cimabue (No. 13) is attributed to a follower of Giunta da Pisa, Deodato Orlandi, the painter of a signed crucifix of 1288 in the Lucca gallery and of two Madonnas in the Museum at Pisa, of which one is signed and dated 1301. Finally the picture (No. 12) which has borne the name of Margaritone d'Arezzo is recognized rather as a studio piece by that pupil who painted No. 99 of the Florence Academy and a Madonna formerly in the hands of the dealer Miethke at Vienna.

Ghirlandajo's Drawings.—In *Mh. f. Kunstw.* VIII, 1915, pp. 293-295 (2 figs.), P. E. KÜPPERS denies to Ghirlandajo the Leonardesque drawings attributed to him by Wickhoff, Nos. 420, 433, 434, 437, of the Uffizi, and the drapery study in the Louvre (Braun 180). No. 434 is Granacci's study for St. Jerome in his Berlin altarpiece. The likeness of the Uffizi drawing No. 431 to the Madonna of the Sassetti altar is not such as to support its attribution to Ghirlandajo. On the other hand No. 441 is surely a study for the Madonna of the 1485 Adoration. The interesting connection of Ghirlandajo to the atelier of Verrocchio is evidenced by No. 432, which bears on one side a study by Ghirlandajo for the Child of the Pisa Madonna and on the other a drawing of some pupil of Verrocchio, perhaps Credi.

SPAIN

Don Baltasar Carlos by Velazquez.—In *Burl. Mag.* XXVIII, 1915, pp. 56-60 (pl.), L. CUST discusses the portrait of Don Baltasar Carlos sent to England in 1639 when the Spanish heir-apparent was a candidate for the hand of Mary, the oldest daughter of Charles I, and now preserved in Buckingham Palace. A recent cleaning has removed the heavy varnish and discoloration which formerly obscured the stroke of Velazquez.

Painters to the Kings of Spain.—In *Boletín de la Sociedad Española de Excursiones*, XXIII, 1915, pp. 132-146, 206-224, F. J. SÁNCHEZ CANTÓN continues his catalogue of the painters to the chamber of the kings of Spain with the discussion of the late seventeenth century painters of the Austrian house and the fifteenth century painters of the Bourbons.

Sixteenth Century Art in Huesca.—In *Boletín de la Sociedad Española de Excursiones*, XXIII, 1915, pp. 189-197 (2 pls.), R. D. ARCO concludes his series of unedited documents on the art of Huesca in the sixteenth century with considerable material for the obscure painter Tomás Peliguet, a follower of Baldassare Peruzzi and Polidoro da Caravaggio and highly esteemed at his time.

Hernando Yáñez de la Almedina.—In *Boletín de la Sociedad Española de Excursiones*, XXIII, 1915, pp. 198-205 (4 pls.), E. TORMO writes an enthusiastic criticism of the early sixteenth century Leonardesque painter Hernando Yáñez de la Almedina, whom he calls the most exquisite painter of the Renaissance in Spain.

Spanish Pictures in American Collections.—In *Art in America*, III, 1915, pp. 309-320 (4 figs.), and in *Boletín de la Sociedad Española de Excursiones*, XXIII, 1915, pp. 104-108 (4 pls.), A. L. MAYER discusses the Spanish pictures in America with many attributions. Twenty-seven authentic works by Greco, ten by Velazquez, and four by Murillo have crossed the Atlantic; but there are paintings by less celebrated artists as well. The portrait of a nameless lady in red at the Worcester Art Museum is assigned to Bartolomé González instead of Coello. No. 810 of the Johnson collection is not Spanish but Flemish. In the Boston Museum of Fine Arts the Crowning of Thomas is a Ribera dating from 1630-1640; the Geographer to be a Ribera must be a late work; but the St. Sebastian Cured by St. Irene is surely an imitation by Luca Giordano. Vice versa, the Philadelphia St. Sebastian Cured by St. Irene is an authentic Ribera, the Geographer Giordano's copy. The Lucretia attributed to Ribera in the Metropolitan Museum is by Massimo Stanzioni. A head of a priest belonging to Mr. W. F. Cook, of Pittsburgh, is a fragment from Ribera's celebrated picture of the Triumph of Bacchus, painted 1630-35, the greater part of which perished in one of the conflagrations in the Alcázar of Madrid. Some few heads, rescued from the charred canvas, are preserved in the Prado. A finer work by Ribera is the St. Paul in the possession of Mr. Archer M. Huntington, New York. Juan de Ruelas, the founder of the national Sevillian school, is not represented in America, but there is a fine genre Interior by Francisco Herrera the Elder owned by Eugen Boross, Larchmont, N. Y. The few pictures by Murillo in this country are of unusual importance. The young St. Thomas of Villanueva Distributing his Raiment among Little Beggar Boys which belongs to Mrs. Emmery, Cincinnati, is the consummate example of Murillo's genre painting. The male portrait owned by Sir William van Horne,

of Montreal, is excellent. The Girls at the Window in the Widener collection is full of humor. The male bust portrait in the Hispanic Museum, New York, is a genuine Murillo, but the Coronation of St. Francis there is a copy by Tobar of the larger original in the Seville museum. The Martyrdom of St. Stephen in the Boross collection mentioned above is not by Murillo, but by Pablo Legote. False attributions to Velazquez are the Philip IV in the Boston museum, the Satyr and Peasant by Bernardo Strozzi and the Borrachos in the Widener collection, and the Knight of Santiago by Mazo in the possession of Mr. William P. Douglas, New York. But the Infante Don Baltasar Carlos of 1631 in the Boston museum is an important and genuine example of the master. Antonio de Puga is represented by the Antiquarian of Mr. Archer M. Huntington and the Old Woman of Mr. St. Bourgeois; Carreno by the Charles II of the Hispanic Museum, which is earlier than the similar picture in the Museo del Greco, Toledo, Spain, and to be identified with the picture sent to France in negotiating the marriage with this king's first wife, Doña Maria Luisa de Orleans.

El Greco and the Antique.—In *Boletín de la Sociedad Española de Excursiones*, XXIII, 1915, pp. 89-103 (8 pls.; fig.), J. RAMÓN MÉLIDA discusses the relations of El Greco to the antique and finds that, while he was entirely free from the classic tradition as expressed in sculpture, the ancient portrait style as known from the Fayum, had been passed down through Byzantine channels and along with Byzantine compositions moulded El Greco's art.

FRANCE

Quentin Varin.—In *Mh. f. Kunstw.* VII, 1915, pp. 274-278 (2 figs.), O. GRAUOFF gives a résumé of all that is known of Poussin's teacher, Quentin Varin. This artist was born at Beauvais about 1570, studied under local painters and later was an apprentice at Avignon, whence his earliest known picture, a Madonna with the signature, "Varin pinxit 1600." He settled at Amiens, but commissions took him to Les Andelys, where he became the master of Poussin and left in Notre Dame three signed pictures, two dated 1612. From 1616 he lived with varying fortunes in Paris, finally he became *Peintre du Roi*, 1623. He died probably in 1627, surely before 1629. His early work at the time he was Poussin's teacher is his best, for he better understood the conservative style out of which he grew than the decorative baroque style which he attempted to imitate. Poussin expressed great regard for Varin, but no works preserved show traces of Varin's influence on his pupil.

The Missal of the Sainte Chapelle.—In *R. Arch.*, fifth series, II, 1915, pp. 37-65 (25 figs.), J. BIROT and J. B. MARTIN describe and discuss a missal in the Trésor de la Primatiale at Lyons. The miniatures, finely executed, represent scenes from the New Testament and the lives of the saints. The borders of vines and the like are unusually fine. The names of saints show that the missal was made for a Parisian church, and other indications prove that the church was the Sainte Chapelle. The style of the writing and of the miniatures fix the date at the end of the thirteenth or in the fourteenth century.

BELGIUM AND HOLLAND

Flemish Tomb Pictures.—In *Art in America*, III, 1915, pp. 261-272 (pl.; 3 figs.), F. J. MATHER, JR., publishes three early Flemish tomb pictures in Ameri-

can collections and calls attention to the fact that nearly all the familiar early paintings which show a donor, in bust or half-length, with a patron saint, both invariably of portrait type, were originally pictures of mortuary destination. They are generally the donor panel, not a wing of a triptych, as often erroneously described, but of a diptych, folded over a half-length Madonna. A complete example of the type is published from the Fogg Museum. The left panel is a Madonna attributed to Rogier de la Pasture. The right represents the donor Joos van der Burg (died 1496) and his patron St. Jodoc, and has the arms and funeral inscription of both the donor and his wife on the back; it is assigned to Gerard David. The fact that the two panels were painted separately is attested not only by the style but also by the circumstance that the donor panel had to be cut down appreciably to fit its companion. The second example of the type to be published is a panel recently added to the Johnson collection and representing a Prelate with St. Jerome. In this case the donor panel—the other panel is not known—is the left one; that speaks for France rather than Flanders, and it is, therefore, attributed to the Tournai school, specifically to Jacques Daret. The picture is too early to allow the formerly suggested identification of the donor as Jerome Bursleiden. The third painting published is in the possession of Mr. Philip Lehman, New York. It represents Anna de Blasere (died 1480) with the Madonna and St. Anne and has the funeral inscription of the donor on the back. The style of the painting allows the definitive attribution to the Master of the St. Ursula Legend. This painting was probably set up on one side of a carved crucifix pendant to another panel; it does not then form an example of the particular class of tomb pictures to which the preceding examples belong. A sixteenth century French portrait panel of a donor with patron in the Worcester Art Museum is possibly a mortuary picture, but its arched form is more that of the side piece of a triptych without shutters.

Dutch and Flemish Drawings in the Metropolitan Museum.—The drawings by Dutch and Flemish artists in the Metropolitan Museum are treated by G. S. HELLMAN in *The Print Collector's Quarterly*, V, 1915, pp. 369-396 (12 figs.).

Rembrandt's Amsterdam.—In *The Print Collector's Quarterly*, V, 1915, pp. 109-169 (plan; 27 figs.), F. LUER gives under the title of 'Rembrandt's Amsterdam' an English version of that part of his book, *Wandelingen met Rembrandt in en om Amsterdam*, which is of interest to students of the reproductive arts.

Rembrandt's Drawings.—In *Z. Bild. K.* XXVI, 1915, pp. 213-216 (pl.), M. J. FRIEDLANDER offers a general criticism of Rembrandt's drawings and indicates that the artist found himself earlier in his career in these less pretentious works than in his more ambitious undertakings, and that the drawings reflect characteristics not different but supplementary to those of the paintings.

Notes on Gonzales Coques and Assistants.—In the thirty-second installment of 'Notes on Pictures in the Royal Collections' (*Burl. Mag.* XXVII, 1915, pp. 150-158; 3 pls.), L. CUST and E. J. VAN DEN BRANDEN show that it is not the painting of a picture gallery at the Mauritshuis, The Hague, but another Picture Gallery in the royal collection at Windsor which was presented by the Guild of St. Luke to the advocate Jean van Bavegem. The identification rests on the representation of the advocate and of members of the guild in

the Windsor picture. The man in the Hague painting is presumably the proprietor of the collection. In both paintings the architecture is by Wilhelm Schubert von Ehrenberg, a German resident of Antwerp, the individual paintings by various Antwerp artists, and the figures by Gonzales Coques. Coques and Ehrenberg finished their task in 1674 though the picture was not completed and presented till 1683. However successful Coques was as a painter of small figures and portrait groups, he was a failure in large compositions. Commissioned in 1647 by the Prince of Orange to furnish ten large pictures of the Legend of Psyche, he was obliged to call secretly upon his fellow-painter Abraham van Diepenbeck for composition sketches. The latter furnished them at a reasonable price by plagiarizing Raphael. Coques carried out these compositions, only to be accused of stealing from Raphael. In revenge on Diepenbeck he refused him his pay and in the litigation that followed the whole odious affair became public.

Jan Boeckhorst.—In *Jb. Preuss. Kunsts.* XXXVI, 1915, pp. 162-174 (6 figs.), R. OLDENBOURG defends the old view of Reber that the upper part of Rubens' small Last Judgment in the Munich Pinakothek is the later addition of a pupil. This pupil is identified as Jan Boeckhorst, who is responsible for the retouching and enlarging of the Erlangen Assumption of the Blessed, the central part of which still retains Rubens' original design. To the same artist are attributable some further imitations of Rubens: the Fall of the Damned in the Aachen museum, the Last Judgment in the Dresden gallery (No. 958A), the Last Judgment engraved by Rosaspina, a little Fall of the Damned in Budapest (No. 599), and a Pan and Syrinx in Buckingham Palace. Other pictures which may eventually be also by Boeckhorst are the *Hélène Fourment* from the Weber collection now in the Brussels museum, a *Family at Windsor*, a female portrait in the gallery at Darmstadt (No. 190), a portrait of a youth in the Munich Pinakothek (No. 865), and a *Falconer* in Buckingham Palace.

Van Dyck's Etchings and Iconography.—A detailed study of Van Dyck's twenty-one etchings and an account of that series of engravings of princes and military commanders, statesmen and philosophers, artists and amateurs, known as the *Iconography*, is given by A. M. HIND in *The Print Collector's Quarterly*, V, 1915, pp. 1-37, 220-253 (39 figs.).

The Monforte Altarpiece of Hugo van der Goes.—In *Z. Bild. K.* XXVI, 1915, pp. 221-230 (pl.; 11 figs.), A. GOLDSCHMIDT studies the Monforte Altarpiece of the Kaiser-Friedrich Museum. The appearance of its lost wings can be reconstructed inadequately from the two copies of the altarpiece by a Frankfurt master; of these copies that in Antwerp more nearly reproduces the type of composition that is known as Hugo's, that of Vienna gives a very curtailed variation of the Circumcision panel and entirely departs from its model in the panel of the Nativity. Neither the date of these copies nor that of the influence of this and of Hugo's other works on *Geertgen tot Sint Jans* gives a basis for fixing the date of the Monforte Altar. On stylistic grounds it would seem to belong to the period about 1470, when the artist was eagerly studying earlier masters and had not yet come under the influence of Dirk Bouts.

A Drawing by Barend van Orley.—In *Jb. Preuss. Kunsts.* XXXVI, 1915, pp. 223-230 (2 pls.; 4 figs.), L. v. BALDASS discusses the stylistic relations of Mabuse and Barend van Orley and attributes to the latter a composition

drawing for an Adoration which has hitherto borne Mabuse's name in the Louvre.

The Perspective of the Ghent Altarpiece.—In *Mh. f. Kunstw.* VIII, 1915, pp. 198–201 (8 figs.), R. JOSEPHSON offers an explanation of the low viewpoint in eight sections of the Ghent Altarpiece. The altarpiece shows strong influence of the sculpture of Claus Sluter and especially of the figures of the portal of Champmol. Jan van Eyck in sketching from below this sculpture as it must actually have appeared to him would have come upon the illusionistic low viewpoint even though his theoretical knowledge of perspective was slight and this low viewpoint was not scientifically mastered before Mantegna.

GERMANY

Dürer in the Vischer Studio.—In *Mh. f. Kunstw.* VIII, 1915, pp. 366–370 (8 figs.), H. STIERLING points out the influence of Dürer over the Vischer workshop. Peter Vischer the Elder's grave tablet for Kmitas in the cathedral at Cracow shows direct imitation of the St. Eustachius and St. George of the Baumgärtner Altar. Dürer's drawing of 1513 for Vischer's Römhilder or Hechinger monument is well known and no longer to be set aside on the basis of date. The Christ of the epitaph of Margarethe Tucher, probably by the younger Vischer, imitates Dürer's Life of Mary, B. 92, the scene of Christ's Departure from His Mother. Dürer's engraving of Adam and Eve of 1504 had a controlling influence on both the renderings of Orpheus and Eurydice by the younger Vischer (Fig. 9), as well as some bearing on other of his works, the Romulus and Remus plaque, the Stanmore and Oxford ink wells, and the relief of the Healing of the Blind on the monument of St. Sebald. The Louvre has a folder of little-studied drawings by the younger Vischer, which show his relation to Dürer.

Hans Burgkmair's Genealogy of Maximilian I.—In the Beiheft to *Jb. Preuss. Kunsts.* XXXVI, 1915, pp. 1–20, H. ZIMMERMANN publishes a catalogue of the extant trial proofs of Hans Burgkmair the Elder's series of woodcuts of the genealogy of Emperor Maximilian I, complete except for the recently found series in the Ashmolean Museum, Oxford (see *A.J.A.* 1915, p. 503).

Martin Schaffner as Medallist.—In *Jb. Preuss. Kunsts.* XXXVI, 1915, pp. 153–161 (pl.; 2 figs.), G. HABICH groups ten examples of the work of an anonymous medallist whom he calls the Beltzinger Master, because several of the medals represent members of the Beltzinger family. The people portrayed and the provenance of the known medals point to Swabia, precisely to Ulm. One of the medals shows a man in working clothes and is marked, "MDXXII EFFIGIES M.S.M. XLIII." Since the dates fit, the M.S.M. may be read Martin Schaffner Maler; this form of signature was common at the time and used elsewhere by the artist in question.

Middle High German Poetry on Fifteenth Century Tapestries.—In *Jb. Kunst. Samm.* XXXII, 1915, pp. 233–253 (pl.; 12 figs.), B. KURTH identifies the subjects of two fifteenth century woven tapestries by referring them to Middle High German poetry. The first of these, illustrating *Der Busant*, is reconstructed incompletely from four fragments, one in the South Kensington Museum, another in the collection of W. Clemens at Munich, a third in the Figdor collection at Vienna, and a fourth in the Nationalmuseum at Nurem-

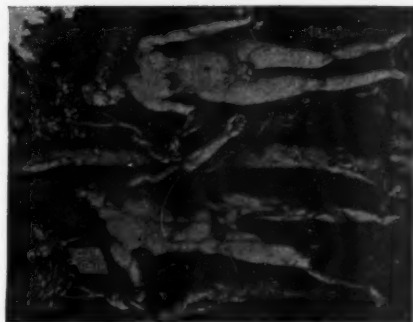
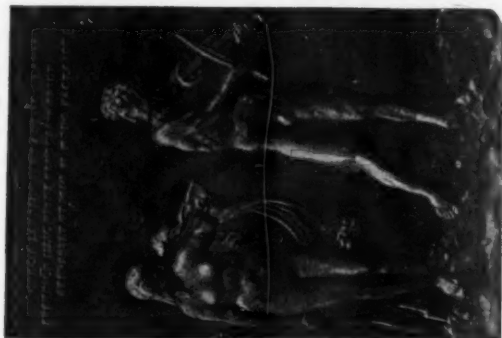


FIGURE 9.—DÜRER'S ADAM AND EVE; ORPHEUS AND EURYDICE BY THE YOUNGER VISCHER

berg. Of the second tapestry, representing the story of the Queen of France and the Faithless Marshall, only a piece in the Nuremberg museum is known. Both tapestries follow their Alemannic literary prototypes very closely and with a third piece of tapestry in the Vienna Hofmuseum can on stylistic, dialectic, and heraldic evidence be traced to an Alemannic, perhaps Alsacian origin.

The Lovers by Israel van Meckenem.—In a note in *Burl. Mag.* XXVII, 1915, p. 248 (pl.), C. DODGSON differentiates the five states of Israel van Meckenem's engraving, *The Lovers*, after the Master of the Hausbuch. The states had previously been described as three.

Early German Woodcuts.—A brief account of the progress of German wood engraving through the fifteenth century is given by E. H. RICHTER in *The Print Collector's Quarterly*, V, 1915, pp. 340-362 (8 figs.).

Two Drawings by Dürer in the British Museum.—In *Burl. Mag.* XXVIII, 1915, pp. 7-14, 49 (3 pls.), C. DODGSON publishes two new Dürer drawings recently acquired by the British Museum. One, representing *Knights Riding and Tilting*, is dated 1489; it has a study for a knight's head on the reverse. The other is a *Costume Study*. Both were purchased at the Ginsburg sale at Sotheby's, July 20, 1915. The former can be traced back to the possession of Sir Thomas Lawrence, the latter to the Mariette and Wellesley collections.

GREAT BRITAIN

The Development of Table Designs.—In *Burl. Mag.* XXVII, 1915, pp. 189-193, 231-235 (2 pls.; 5 figs.), B. OLIVER traces the development of English table designs of the sixteenth and seventeenth centuries. The earlier trestle tables with detachable tops and occasional round tables began to be replaced about the middle of the sixteenth century by framed tables, with legs connected by stretchers near the bottom, sometimes draw-tables. Under continental (Flemish) influence the legs became in the next century very bulbous and over-balustered. This type was soon replaced by the ordinary gate-leg table. But already the slenderer type had been developed in Italy and along with other classical reminiscences it spread to France in the sixteenth, and to England in the seventeenth century.

Shakespeare's Mask.—In *Mh. f. Kunstw.* VIII, 1915, pp. 279-292 (fig.), P. WISLICENUS defends the thesis which he has often maintained that the famous death mask of Shakespeare is authentic.

AMERICAN ARCHAEOLOGY

GENERAL AND MISCELLANEOUS

The Cross in Ancient America.—In the *Annual Archaeological Report of the Ontario Provincial Museum* (Toronto, 1914, pp. 26-43; pl.; 10 figs.), W. R. HARRIS brings together numerous examples of the occurrence of both the swastika and the true cross in America. It is inferred that the presence of the cross in both the New and Old Worlds indicates a far-reaching and very ancient cross cult.

Material Culture of West Greenland Eskimo.—In *Arbejder Fra Den Danske Artistiske Station Paa Disko* (Copenhagen, 1915, pp. 113-250; pl.; 66 figs.), M. P. PONSILD presents a very thorough technological investigation of

the weapons and implements of the West Greenland Eskimo. The subject is treated under the following heads: weapons (harpoons, darts, spears, arrows, lances), nets, shooting screens, drags, drills, knives, lamps, and toys. As in other studies of Eskimo culture, the extraordinary ingenuity of the people and their adaptability to their environment, are brought out. It is concluded that the culture of the region is essentially a unit; regional forms, where they occur, are due to the exigencies of the environment or of the raw materials rather than to influences from other civilizations.

Effigy Pipes from Ontario.—In the *Annual Archaeological Report of the Ontario Provincial Museum* (Toronto, 1914, pp. 44-71; 4 pls.; 26 figs.), G. E. LAIDLAW describes lizard effigy pipes. There are two types: stemless and stemmed. They are generally made of light-gray steatite or limestone and are distinguished from other types of effigy pipes by the presence on the exterior of the bowl of lizard effigies, the tail of the reptile running down underneath the bowl. They are presumably of late date, their manufacture possibly extending into the historic period. While no tribe is definitely known to have made them, there are certain indications that they may have been the product of the Huron-Iroquois. In the same publication (pp. 80-88) there are figured and briefly described pipes, "bird-stones," ceremonial objects and bone implements, recent archaeological acquisitions of the Ontario museum.

Ceremonial Rooms of the Cliff-dwellings.—In *Amer. Anthr. N. S. XVII*, pp. 272-282 (2 pls.; 3 figs.), B. CUMMINGS discusses the kivas or ceremonial rooms of the San Juan Drainage in Utah and Arizona. The chambers are of two kinds: circular, and square. The former are an early type, probably derived from the circular dwelling houses of a lower stage or culture. The square kivas are presumably late, because they occur in ruins still remembered in Navajo tradition. That circular forms of enclosure other than true kivas were associated in the minds of the cliff-dwellers with ceremonial observance, is believed by Professor Cummings to be proved by the finding of ceremonial deposits in caves of circular shape.

New Mexican Pottery.—In *Mem. Amer. Anthr. Assoc. II*, pp. 409-462 (14 pls.; 11 figs.), A. V. KIDDER describes the pottery of the Pajarito Plateau, N. M. The wares are divided into four groups: black-and-white; Agua Fria; Frijolito; Pajaritan. The range of each group is discussed; the archaeology considered; and the designs, to some extent, are analysed. It is suggested that the four types follow each other in time in the order given above.

Nebraska Crania.—In *Amer. Anthr. N. S. XVII*, pp. 529-534 (7 pls.; 6 figs.), C. W. M. POYNTER studies a series of over one hundred skulls taken from graves near Omaha, Nebraska. Several groups are considered and it is concluded that, while there is no evidence of great antiquity, and no reason for supposing that the remains are other than Indian, the crania in all probability represent several well-marked tribal groups. As the Plains region, where these skulls were found, has no natural barriers in any direction, their resemblance to other American types is not to be wondered at.

An Early Mayan Pottery Head.—In *Man*, XV, 1915, p. 129 (pl.), T. A. JOYCE reports on a pottery head recently acquired by the British Museum. It is moulded by hand of coarse buff-colored clay and is probably a fragment of an incense burner. The flattened head, the eye-structure and variout

added ornaments show it to be early Mayan and the face is tentatively identified as that of "God D" or the "Roman-nosed God" of the Codices.

Figurine from Tampico.—In *Bull. et Mém. Soc. d'Anthr. de Paris*, V, 1914, pp. 180-181, FÉLIX REGNAULT describes a small figurine (Musée d'Annecy) which shows graphically the method employed in producing the well-known Maya type of head-deformation. A seated woman holds a child in her lap and presses its head between two hard, flat objects. While the early chronicles often described this process and its results are to be seen in many sculptures, this is the only pictorial representation of it that has yet come to light.

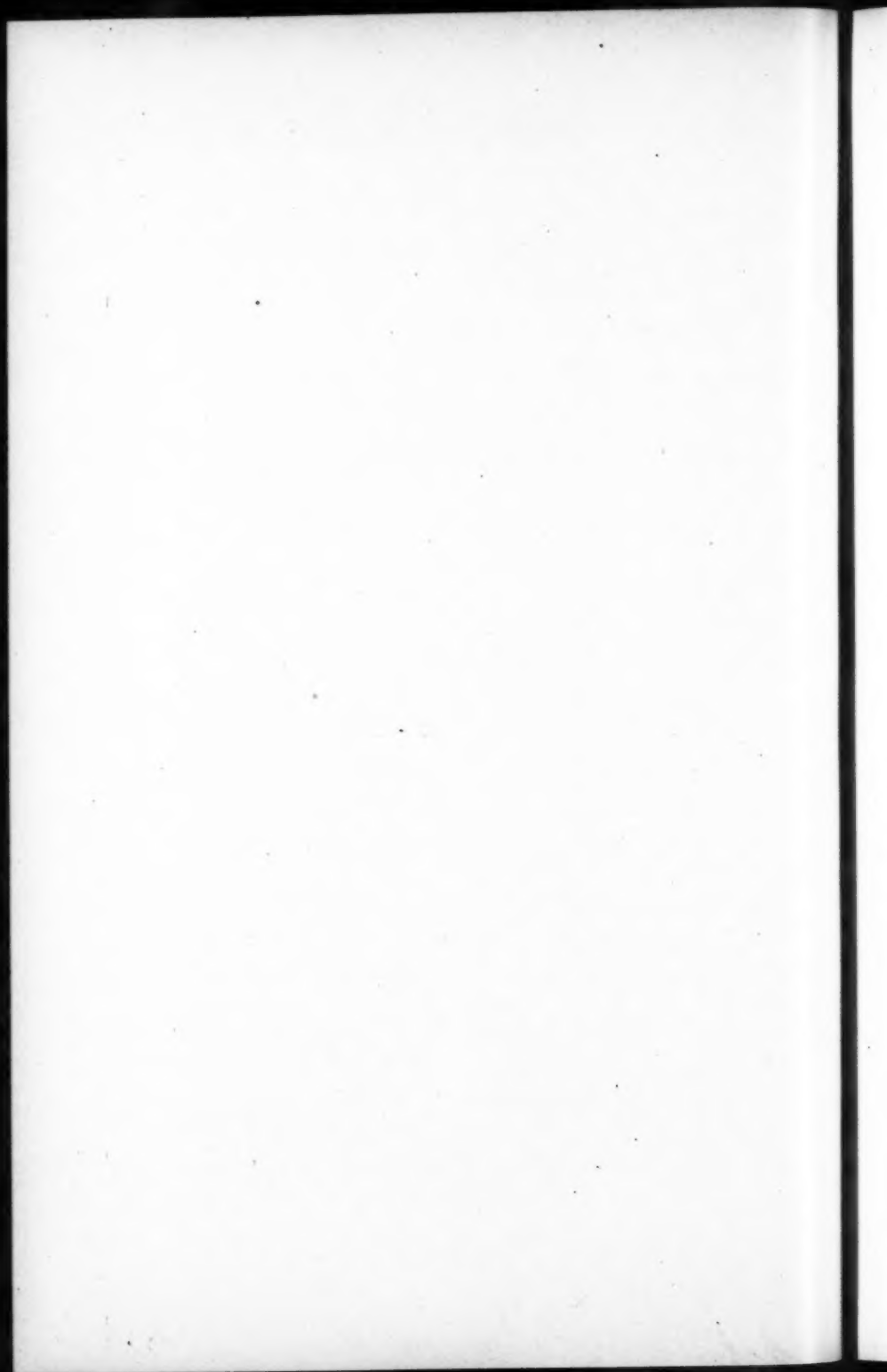
Archaeology of Salvador.—In *Amer. Anthr. N. S.* XVII, pp. 446-487 (3 pls.; 30 figs.), H. J. SPINDEN collects material for a preliminary classification of the archaeology of Salvador. Five periods are recognized. The oldest or Archaic Period is represented by crude clay figurines made by adding anatomical and ornamental details to a gross framework. The pottery takes the form of tripod jars and jugs with plastic ornament in a style suggesting that of the figurines. This archaic culture is very widely spread, being found in the Highlands of Guatemala, and the Mexican Plateau. In distribution it roughly corresponds with the present range of Nahua speaking people. The Maya Period of Salvadorean culture shows, as the name implies, strong influence from the Maya culture of Guatemala and Southern Mexico. It is represented by figurines of much finer workmanship and by painted tripod vases of cylindrical shape. The latter bear painted decoration that is typically Mayan; some recognizable Mayan gods appear. The next two periods: the Transitional, and the Post-Maya, represent at first a general decline in artistic ability, although in the Post-Mayan Period there appears very fine semi-glazed pottery with ornamentation by incising and modelling. The last period, the Aztec, is very strongly Mexican, influence from the North being seen in modelling, carving and painting. The archaeology of Salvador is closely connected with that of Nicaragua and Costa Rica to the south; and to that of the Maya and Nahua regions to the north. Stratified deposits, therefore, wherever they may be found in Mexico or Central America, may be expected to throw valuable light on archaeological problems at considerable distances from the localities in which they are discovered.

Types of Machu Picchu Pottery.—In *Amer. Anthr. N. S.* XVII, pp. 257-271 (pl.; 12 figs.), HIRAM BINGHAM classifies by shape the pottery of Machu Picchu, Peru. Wherever the analogies are close enough he borrows from the nomenclature of classical archaeology such terms as aryballus, pithos, etc. The commonest types found are the aryballus, beaker-shaped olla, pot-cover, two-handled dish, pelike-shaped jug, deep ladle and jug. All these forms belong to the later or Inca style. Certain rarer types appear to be products of an earlier period.

Peruvian Textiles.—In *Anthr. Papers of the American Museum of Natural History* (XII, pp. 55-104; 16 figs.), M. D. C. CRAWFORD presents a technological study of the textile fabrics found in the cemeteries of coastal Peru based on the collections in the Museum. The fabrics are analysed in the same way as are modern loom products; according to the weave or manner in which the design is produced; the nature and twist of the yarns; and the chemical properties of the dyes. The fibres employed were: cotton, wool and bast; spun with a whorled spindle into yarns of most extraordinary fineness. Dying was

done direct without the use of a mordant. The hand-loom only was used in weaving yet the fabrics have never been surpassed in any country at any period. The most notable manufactures were tapestries, the best of which were nearly twice as fine (in number of warps to the inch) as Gobelin tapestry. Other weaves and tricks of weaving are described in detail, as well as weaving tools and methods of using them. It is stated that the Peruvians independently produced practically every kind of textile technique and decoration known at the present day.

Amazonian War Trophies.—In *Bulletin of the Buffalo Society of Natural Sciences*, XI, 1915, (2 pp.; 2 pls.), are described two head-trophies from the Amazon. One is a shrunken human head collected from the Jivaro Indians. The preparation consisted of removing the skull and brains through the severed neck, and shrinking the skin by means of hot sand and astringents, care being taken to preserve the contours of the features. A thorough smoking completed the process. The Mundrucu head was preserved lifesize; it has been smoked and the eye-sockets filled with ornamented balls of crude rubber.



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